

GAZETTEER

OF THE

LUDHIANA DISTRICT.

1888-9.



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1888-9

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P R E F A C E.

THE period fixed by the Punjab Government for the compilation of the *Gazetteer* of the Province being limited to twelve months, the Editor has not been able to prepare any original matter for the present work ; and his duties have been confined to throwing the already existing material into shape, supplementing it, as far as possible, by contributions obtained from district officers, passing the draft through the press, circulating it for revision, altering it in accordance with the corrections and suggestions of revising officers, and printing and issuing the final edition.

The material available in print for the *Gazetteer* of this district consisted of the Settlement Reports, and a draft *Gazetteer*, compiled between 1870 and 1874 by Mr. F. Cunningham, Barrister-at-Law. Notes on certain points have been supplied by district officers ; while the report on the Census of 1881 has been utilised. Of the present volume, Section A of Cap. V (General Administration), has been for the most part supplied by the Deputy Commissioner ; Section A of Cap. III (Statistics of Population) has been mainly taken from the Census Report ; while here and there, passages have been extracted from Mr. Cunningham's compilation already referred to. But, with these exceptions, the great mass of the text has been taken almost, if not quite verbally, from Mr. T. G. Walker's Settlement Report of the district.

The draft edition of this *Gazetteer* has been revised by Col. Gurdon, and Messrs. Walker and Wakefield, and by the Irrigation Department so far as regards the canals of the district. The Deputy Commissioner is responsible for the spelling of vernacular names, which has been fixed throughout by him in accordance with the prescribed system of transliteration. The final edition, though completely compiled by the Editor, was prepared for press, with the exception of Chapters V and VI, by the late Mr. Stack ; while the whole of it has been passed through the press by Mr. Walker.

THE EDITOR.

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Table No. 1. LEADING STATISTICS.

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DETAILS.				
DETAILS.	DISTRICT.	DETAIL OF TAHSILS.		
		Ludhiana.	Jagraon.	Samrala.
Total square miles (1881)	1,375	678	409	288
Cultivated square miles (1878)	1,119	535	349	235
Culturable square miles (1878)	144	65	55	24
Irrigated square miles (1878)	656	545	30	81
Average square miles under crops (1877 to 1881)	1,187	592	299	296
Annual rainfall in inches (1866 to 1882)	27.0	27.0	20.8	27.8
Number of inhabited towns and villages (1881)	859	433	169	257
Total population (1881)	6,18,835	3,07,559	1,58,767	1,72,509
Rural population (1881)	5,35,783	2,63,386	1,32,675	1,39,712
Urban population (1881)	83,052	44,163	26,092	12,797
Total population per square mile (1881)	450	453	388	530
Rural population per square mile (1881)	390	388	324	486
Hindus (1881)	2,75,240	1,30,478	55,608	80,154
Sikhs (1881)	1,27,143	63,633	46,617	16,893
Jains (1881)	2,165	1,178	749	238
Muslimans (1881)	2,13,954	1,11,942	55,789	46,223
Average annual Land Revenue (1877 to 1881)*	7,95,143	3,52,325	2,27,847	2,14,971
Average annual gross revenue (1877 to 1881)†	14,12,127	.....	.....	.....

* Fixed, fluctuating, and miscellaneous.

† Land, Tribute, Local rates, Excise, and Stamps.

LUDHIÁNA.

CHAPTER I.

THE DISTRICT.

SECTION A.—DESCRIPTIVE.

Ludhiána is the most western of the three districts of the Umballa division. The main portion of the district lies between $30^{\circ} 33'$ and $31^{\circ} 1'$ North Latitude and $75^{\circ} 25'$ and $76^{\circ} 27'$ East Longitude, and has for its northern boundary the river Sutlej, across which it faces the Jullundur Doáb. To the east it adjoins the Umballa, and to the west the Ferozepore districts, while to the south it is separated from those of the Delhi and Hissar divisions by the tract of country which is partitioned between the Chiefs of Patiala, Jind, Nábha, and Máler Kotla. To the north, east and west the boundaries are fairly symmetrical, but to the south the district is cut into by the territories of the Chiefs named above. The political history of our acquisitions in these parts will account for the unscientific nature of the boundary on this side, and also for our having to retain a number of detached villages stretching as far south as $30^{\circ} 5'$, while two or three groups of Patiala villages lie surrounded by those of the Samrála tahsil. The continuous portion of the district has a length along the river of nearly 60 miles; while the breadth, north and south, is about 24 miles, except where Patiala territory juts into it between the Ludhiána and Samrála tahsils.

The district is divided into three tahsils—Samrála to the east, Jagraon to the west, and Ludhiána in the middle. Some leading statistics regarding the district and the several tahsils into which it is divided are given in Table No. I on the opposite page. The district contains two towns with a population of more than 10,000 souls, as follows :—

Ludhiána	...	...	...	...	44,163
Jagraon	...	...	...	...	16,873

The administrative head-quarters are located at the town of Ludhiána, situated in the centre of its northern border on the Sindh-Punjab Railway, and six miles from the bank of the Sutlej. Ludhiána stands 29th in order of area and 15th in order of population among the 32 districts of the Province, comprising 1.29 per cent. of the total area, 3.29 per cent. of the total population, and 3.40 per cent. of the urban population of British territory.

It includes 914 villages, with an average area of 966 acres for each village. Notwithstanding its limited area the district is one of the most important in the province, paying between 11 and 12 lakhs of rupees in land revenue, and having a population of more than half-a-million. If we exclude the outlying villages, it is probably more compact and convenient for administrative purposes than any other district, the remotest point being not much more than 30

Chapter I, A.

Descriptive.

General description.

Chapter I, A.**Descriptive.**

General description.

miles from head-quarters, and access to almost every part being easy by rail, or by the good roads which run in all directions. The outlying villages number 39, and have an area of 125 square miles.

The latitude, longitude and height in feet above the sea of the principal places in the district are shown below :—

Town.	N. Latitude.	E. Longitude.	Feet above sea level.
Ludhiána ...	30° 55'	75° 54'	806
Jagraon ...	30° 47'	75° 31'	764
Samrála ...	30° 45'	76° 8'	870*

Natural divisions :
Bét and Dháia.

The district has no very striking natural features. The main physical divisions are the same as those of most Punjab plain districts, *i.e.* a low-lying alluvial tract along the river (here called *Bét*), and the uplands (called *Dháia*).

The river Sutlej.

The river Sutlej forms, as stated before, the northern boundary of the district. Debouching from the Siwálíks just above Rúpar, some 25 miles east of the boundary of the Samrála tahsil, it flows due west along the top of the district for a distance of about 60 miles, and turns, as it leaves the Jagraon tahsil, slightly to the north towards its junction with the Beas. Even when at its lowest, in the middle of the cold weather, the river has a considerable volume of water, the main stream being generally 100 to 200 yards in width, and seven or eight feet in depth. Some of the people living on the banks are able to ford it when very low, but even to them this is attended with danger. When in flood it spreads over the country to a width generally of two or three miles; and, even where confined by the Phillour Bridge Works to its narrowest, it measures nearly a mile of running stream. The bridges and ferries are noticed in Chapter IV (page 163).

Like all Punjab rivers the Sutlej is constantly shifting its course in the floods of the hot weather, as there is nothing to keep it to one bed. Within the last 30 years we know that it has moved about four or five miles northwards in the first few miles of its course in this district; and there can be no doubt that within a not very distant period (local accounts say 100 years) it flowed just under the ridge which separates the Dháia or highlands from the Bét, the older towns and villages like Bahlolpur, Machiwára, Kum, &c., having been built on its banks. The division between uplands and lowlands is everywhere marked distinctly by this ridge or high bank (*Dha*); and between it and the present course of the river lies the Bét tract. To the east of the district the river and the high bank are five or six miles from each other; and this distance is maintained for the first 30 miles; but below the town of Ludhiána they gradually approach until in the Jagraon tahsil the Bét is only one or two miles in width, and finally disappears.

The Budha Nála.

Immediately under the high bank along what was once the course of the Sutlej now runs a perennial stream called the Budha Nála, which takes its rise in some springs near Chamkor in the

* Approximate.

Rúpar tahsil of Umballa, and enters this district under Bahlolpur. Passing just below the town of Ludhiána, it flows into the Sutlej in tahsil Jagraon, a few miles east of the Ferozepore border. When swollen by floods in the rains it has a considerable volume of water and covers the country about; but ordinarily the actual stream is only a few yards across, although there is in places a good deal of swamp about it. The water, except in the floods, is perfectly clear, and is used freely by the people for drinking purposes, but never for irrigation. The reason for this is that it is said to contain a large infusion of salts, but in any case it would have to be lifted to the fields; and, with the water level only eight or ten feet below the surface, it is as easy to dig small unlined wells where they are wanted.

In the Samrála tahsil a good deal of injury is done to what would be valuable land by the spread of swamp, the stream being only slightly below the level of the country, and all land within a short distance of it is injuriously affected by percolation. To the west the banks are high and the land is cultivated right up to them. In the cold weather the Budha can be crossed on foot at certain points which are well known to the people; but generally the bottom is treacherous, and in the floods of the rainy season even at these fords the water is too deep for wading. There is a bridge at Ludhiána on the Jullundur road; and there was one just under Machiwára, which was a great convenience, but has been allowed to go to ruin. The result is that in the floods the people of the Bét are almost entirely cut off from the rest of the district. The floods do not last very long, being caused by rainfall in the plains only.

In the immediate vicinity of the river is a strip of land liable to annual inundation and called *mand* or *kachcha*, and in this we see the soil of the Bét in process of formation. Something occurs to divert the force of the river from a certain point; and, when the floods subside, a shallow deposit of silt is found covering what was before an expanse of sand. The accumulation of silt goes on for a year or two, being assisted by the growth of *dib* grass (*Eragrostis cynosuroides*), which is generally followed by *pilchi* called here *jháo* (*Tamarix orientalis*). When the deposit is about six inches in depth, the land becomes capable of yielding crops; and it is gradually reclaimed by being put through a regular course of cultivation. The formation of a deposit is by no means a uniform operation. A few years may leave three feet of first-rate soil, or the deposit may remain so shallow as to make cultivation scarcely worth while; and one often sees apparently good land abandoned by the people after a trial. The action of the Sutlej in this way appears to be mostly beneficial. The *mand* tract of the first 20 or 30 miles is probably one of the richest pieces of land in the country, and with the very slightest labour magnificent crops are raised in what is really virgin soil. Lower down to the very end of the district the silt is also most fertilizing, although the crops are generally of an inferior class. The river is of course a very powerful and capricious agent, and the saying "Ek sál amír, ek sál faqír" is applicable to the inhabitants of this as of any other riverain tract. The poor cultivator may find, when the floods have subsided, that a piece of barren sand has taken the place of his fertile fields; and that he owns no land that will yield him

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Descriptive.

The Budha Nála.

General description
of the Bét tract :
soil.

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of the Bét tract :
soil.

any thing. In the older or *pucka* Bét the process of formation has ceased long ago ; but there are abundant traces of it. High ridges of river sand occur, and the deposit of soil is generally three to five feet in depth, though in places the sand actually appears on the surface or is just concealed by a coating of soil. The soil of the *mand* is generally a stiff, moist loam of dark colour ; and that of the *pucka* Bét of the same character, but drier and of a lighter tint, the proportion of clay being considerable. There is a great difference between the produce of the first 10 or 15 miles of the Bét and that of the lower parts, but this is perhaps due to the heavier rainfall in the former rather than to anything in the quality of the land. The Bét is everywhere cut up by streams, which convey the drainage to the river. In the rains these overflow their banks and flood the country ; but they are mostly dry for the rest of the year. In such a damp tract it was to be expected that in places impeded underground drainage should produce *kallar* or soil so impregnated with salts as to be barren. There is some of this along the Budha Nála, but not much elsewhere. Saline efflorescence appears here and there all over the Bét, and patches of cultivated land will be found in which the salts have prevented the growth of the crop ; but the evil is not widespread. It is worst about Nurple in Ludhiána and in the adjoining part of Jagraon Bét, where the course of the drainage is in places away from the river, and the water oozes out just under the high bank.

The Dháia or up-
lands : surface of
the country.

From the high bank the Dháia or upland part of the district stretches to the south in a plain, the uniformity of which is unbroken by hill or stream. The surface is perfectly level, except in the immediate neighbourhood of the high bank, or where a sand ridge occurs. There is a very gentle slope from north-east to south-west, at right angles to the Siwális, and the lines of drainage follow this. In the neighbourhood of the high bank, the rainfall is all absorbed by the light soil ; but further inland there are some very well defined drainage lines, locally known as *ráo*, which, in a year of heavy rain, carry a considerable body of water along the depressions which they have apparently worn for themselves. Some of these *ráos* can be traced from one end of the district to the other, and have most of them been carefully recorded by the Canal Department. They are a cause of complaint to the villages lying on them, as they do considerable injury to the crops, and often destroy wells. This is the whole extent of the harm done by them, for, even where the flow of water is partially impeded by the embankments of the Grand Trunk Road, the Railway, Canal, &c, there is never anything approaching to swamp.

Drainage lines, *Ráos*.

Soils of the Dháia.

In the neighbourhood of the high bank the surface is uneven, and the upper soil is a poor light sand, shifting under every wind, and blown into hillocks. There is a good subsoil, however, and this will account for the very fair crops that are raised out of what appears little better than a wilderness. This light sandy tract extends inland for four or five miles, the surface getting gradually more even, and the soil improving. South of it in the main portion of the uplands, every variety of soil will be found, from a very stiff clay to the lightest of sand. In the half of the district east of the Máler Kotla

road the prevailing soil is a stiff loam of darkish colour, with a good deal of clay in it, while to the west of this road a much larger portion of the area is light loam or sand. But everywhere sand occurs, being confined in the Samrála tahsíl to two very clearly marked belts of two or three miles width, which run in a south-western direction and appear to indicate the course of some old hill-stream or drainage line. Elsewhere, scattered over the district, there are numerous ridges of sand, covering considerable areas, and presenting the appearance of continuity for short distances, while elsewhere detached patches crop up in a manner quite unaccountable. These ridges of sand are most common in the south-western portion of the district about Pakhowál, in tahsíl Jagraon and in the *Jangal* or detached villages. They rise in places to a height of 20 or 30 feet, and especially in the *Jangal*, where they occur most frequently, quite shut in the view and give the country an undulating appearance.

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Soils of the Dháia.

There are no very well-recognized subdivisions of the uplands. The Bét people talk of the whole as *Dháia* though they will sometimes refer to the *Jangal* country as something beyond the Dháia. The people of the eastern portion speak of the whole tract to the south-west of the district, including our detached villages and part of Jagraon tahsíl with the Patiála and other territories, as *Jangal*. They talk of it as a country where, although the rainfall is scanty, the produce of the unirrigated crops is very fine; where the land is new and there is plenty of it; where, instead of the constant drudgery necessary under a high system of agriculture, the cultivator has merely to sow his seed, and does what he pleases till harvest time. On the other hand the Jat of the *Jangal* will compare his sandy fields, where only the coarsest grains can grow, with the rich *Pawádih* with its sugar, cotton and maize fields, where the produce of a single acre is equal to that of a holding of his land. There is then, if we exclude the narrow sandy strip of land just over the Bét, which has just been described, and which is uniform along the whole length of the district, this general distribution into the *Pawádih*, or eastern tract, and the *Jangal* or south-western. The characteristics of the former, which comprises the high lands of the Samrála tahsíl, and all the part of Ludhiána east of the Máler Kotla road, are a soil which is generally a fertile loam, rather stiff in places, a high rainfall and a very large proportion of irrigation, with (what is the natural result of this combination) a very highly developed condition of agriculture, all the superior crops being grown. Across the Máler Kotla road the soil grows much lighter, and the rainfall less, while well irrigation becomes difficult, and the higher crops disappear (first sugarcane and then cotton), till finally in our outlying villages well irrigation is unknown, the spring level being over 100 feet from the surface, and only the hardiest crops being able to subsist on the scanty moisture. There is, of course, an intermediate tract, and this is sometimes called *Tihára*, in which would be included most of the Jagraon tahsíl, and the country about Pakhowál in Ludhiána. The people of the Jagraon tahsíl speak of the whole country south of the Grand Trunk Road as *Jangal* or *Rohe*, reserving the name *Dháia* for the tract between it and the high bank. This is the most correct use of the latter term, which does generally mean the land just over the *Dha*.

Minor subdivisions
of the Dháia.

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Table No. III shows in tenths of an inch the total rainfall registered at each of the rain-gauge stations in the district for each year, from 1866-67 to 1882-83. The fall at head-quarters for the four preceding years is shown in the margin. The distribution of the rainfall throughout the year is shown in Tables Nos. IIIA and IIIB. The three tahsil head-quarters at which the observations have been taken are fairly central, except in the case of Ludhiāna. The following is the result of the observations of 18 years :—

Samrāla	...	...	...	...	27 inches.
Ludhiāna	...	...	...	...	27 "
Jagraon	...	...	...	...	21 "

The fall varies for the continuous portion of the district from about 30 inches at Sherpur in the north-east corner to less than 20 inches at Hatur in the south-west, a distance of about 55 miles. In the outlying villages the fall is generally about 17 inches, but goes as low as 15, probably, in the extreme south ones.

The following statement shows the distribution during the years 1869—83 of the rainfall at Ludhiāna over the twelve months :—

MONTHS.		1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	Average.
April	...	...	2	3	1.8	...	1	...	1.9	1.1	3.5	...	...	1	1.3	.7
May	...	...	1	3	7	4	2	1.7	9	5	2.3	4	...	...	...	.9
June	...	1.1	2.7	7.6	2.2	1	1.9	3	1	1.2	2	4.6	2.4	2.9	1	2
July	...	16.4	4.2	3.5	19.7	11.3	7.0	4.4	5.2	4.6	8.2	2.6	13.5	9.3	3.3	8.1
August	...	1.4	7.5	1.1	15.5	5	1.7	8.9	1.6	2.8	12.2	4.1	3.7	8	4.7	5.6
September	...	10.3	2.8	5	2.6	2.9	2.6	17.7	1.1	12	1.7	5	1	3	1.3	4
Total 6 months	...	29.2	17.5	13.3	42.5	23.3	14.4	33	10.8	22.2	28.1	12.2	19.7	20.6	10.7	21.3
October	...	1.2	...	...	...	1.1	...	1	7	2.1	...	...	...	...	...	.4
November	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	.1
December	...	..	4	8	9	...	...	5	...	5.6	1	9	...	...	...	.7
January	...	1.8	1	...	2.1	4	2.1	...	...	2	9	...	1	2.7	3.2	1.1
February	...	4	1	4.1	2	...	1.7	1.6	6	2.3	1.3	...	4.1	5	4	1.2
March	...	6.7	1.8	...	5	1.6	6	..	2.5	2.5	3	1.8	...	..	8	1.4
Total 6 months	...	10.1	2.4	4.9	3.7	3.1	4.4	3.1	3.8	15.3	2.6	2.7	4.2	3.2	4.4	4.9
Total 12 months		39.3	19.9	18.2	46.2	26.4	18.8	36.1	14.6	37.5	30.7	14.9	23.9	23.8	15.1	20.1

Our months do not agree with the seasons understood by the people. The monsoon or rainy season generally begins in the last ten days of June, *i.e.*, the first fifteen days of the native month of *Hār*, and lasts during July, August and September (*Hār*, *Sāwan*, *Bhādon*). The advent of the monsoon is heralded by several days

of boisterous weather, the wind blowing steadily from the south-east. The land has been parched by more than three months of a blazing tropical sun till there is scarcely a vestige of vegetation left ; but with the first fall nature springs into life, and in a few days the face of the country is covered with verdure, grass grows abundantly where it is allowed to, and the autumn crops soon show themselves in the cultivated fields. Rain and sunshine succeed each other at short intervals during the next three months, the breaks of fair weather lasting generally only for a few days. The monsoon rains close at the end of September. There is then generally a slight fall about the time of the Diwáli Festival (20th October), fairly heavy rain about Christmas or the New Year, and again at the end of February or beginning of March. The total of the winter (*Sídl*) falls in six months is not equal to that of the single months of July, August, or September; but owing to the lower temperature the effect is much greater on the vegetation.

Table No. IV shows the temperature at head-quarters for the past 14 years. The following is a statement of the temperature during the months of May, July and December, being the average of observations between 1880 and 1882 :—

Temperature in the shade in degrees Fahrenheit.

MAY.			JULY.			DECEMBER.		
Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.
103	69	86	94	78	86	74	43	58

In April the temperature is at first moderate, but towards the end of the month it rises in the day time. In May and June the sun is very powerful, and the atmosphere hot and dry. The heat is intense, though not worse than in most plain districts, and is not much less during the night than in the day. The first fall of rain brings an immense relief, and somewhat cools the air ; and for the next three months rain and strong sun succeed each other, the atmosphere being saturated with moisture, at all events in the upper portions of the district. October has hot days and mild nights ; and for the five months following it the air is cool and bracing, the nights of December and January being intensely cold. Chill winds from the north often blow for days in January and February, blighting the crops. In the lower part of the district, and more especially in the *Jangal* villages, the hot weather begins much earlier, and the air is dry all the year round.

As might be expected the moist Bét tract is very unhealthy. During the months August to November fever is very prevalent, and in a bad year one can scarcely in October find an able-bodied man not suffering from it. The villages have during this season the appearance of being deserted ; and the same answer is returned in

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every village to one's inquiries as to where the Lambardárs are "táp se digiá" (he is down with fever). Ludhiána and all the towns and villages along the high bank and over the Budha Nála, are not better off. In Máchiwára, Bahlolpur, Kum, Bhundri, &c., it is quite part of a man's life to have an attack of fever once in the year. The severity of these attacks varies, but the general result is a weakening of the constitution, which makes the people less able to resist the effects of other ailments; and it will be found that the dwellers in the Bét and along the high bank are much shortly lived than those of the more inland tracts. In some years the fever is of a bad type, and then it plays havoc with the people. Mr. Davidson, the former Settlement Officer, speaks in his report of being frightened away from Kum by the number of dead bodies brought out for burial while he was there in camp. In 1878 there was a terrific mortality amongst the Kashmiris and other half-starved members of the lower classes in the city of Ludhiána and also in the villages. The civil station is by no means a desirable residence during the months of September and October; but one appears to get away from the influence of the malaria by going even a short distance inland. The most healthy portion of the district is the south-west corner about Bassian and the *Jangal* villages, where the climate is always dry and the water much purer. The people of these parts are generally exempt even from fever, and enjoy excellent health. The district cannot claim any special diseases as prevailing. Phthisis and mania are the most common. Neither Ludhiána nor any one of the other towns has suffered from an epidemic of cholera since that of 1872; and such visitations are rare. The prevalence of ophthalmia has probably been exaggerated.

The Civil Surgeon writes: "The chief diseases of the Ludhiána district are due to malarious poison, enlargement of the spleen and anæmia being very prevalent. Pulmonary consumption is very common in the town of Ludhiána, and although it attacks all classes, the foreign colonies located here are the principal victims, *viz.*, the Kashmiris and Patháns. The disease amongst the Kashmiris is certainly intensified by their employment in shawl-weaving, although the real cause must be attributed to the climate chiefly, which does not agree with the people of more temperate regions. There is no endemic disease peculiar to the district, the same diseases prevailing as in other parts of the Punjab, namely, fevers, pneumonia which is frequently epidemic, and diseases of the bowels, dysentery and diarrhoea."

Tables Nos. XI, XIA, XIB, and XLIV give annual and monthly statistics of births and deaths for the district and for its towns during the last five years; while the birth and death rates since 1868, so far as available, will be found at page 46 for the general population, and in Chapter VI under the heads of the several large towns of the district. Table No. XII shows the number of insane, blind, deaf-mutes, and lepers as ascertained at the census of 1881; while Table No. XXXVIII shows the working of the dispensaries since 1877.

SECTION B.—GEOLOGY, FAUNA AND FLORA.

Chapter I, B.

Geology, Fauna
and Flora.

Geology.

Our knowledge of Indian geology is as yet so general in its nature, and so little has been done in the Punjab in the way of detailed geological investigation, that it is impossible to discuss the local geology of separate districts. But a sketch of the geology of the province as a whole has been most kindly furnished by Mr. Medlicott, Superintendent of the Geological Survey of India, and is published *in extenso* in the Provincial Volume of the Gazetteer Series, and also as a separate pamphlet.

The only mineral product of the district is *kankar*, which is quarried in many places, and is to be found in sufficient quantity and at so convenient sites that there is no difficulty in obtaining a supply for all the metalled roads and for lime. Saltpetre used to be made in a few villages; but the manufacture has been given up.

Mineral products.

It is not to be expected that in such a highly cultivated district there should be much room for the spontaneous growth of trees or shrubs. There are in some villages of the Bét small plantations of *kikar*, &c., reserved by the people. In the uplands, even at the last Settlement, there was little natural growth in the uncultivated lands; and since then the cultivation has absorbed most of the waste that was left. In a very few villages in the upper part of the district there is a small area still left under *āhāk* (*Butea frondosa*), forests of which must at one time have covered the face of the country. This tree requires a good deal of rain and a hard soil, so that it is not to be found in the south-west of the district and in the outlying villages; but in those parts there is a comparatively much larger area of waste still unbroken, and covered with the hardier *jand* (*Prosopis spicigera*), *karīl* (*Capparis aphylla*), &c. It is doubtful there will be much growth of any sort left in ten years, for already, since the new assessments were announced, the people have begun to bring the remaining waste under the plough. Trees (generally *kikar* and *bér*) are scattered about the fields and line the village roads, or are to be found round the village site; and the general result, except in the light-soiled villages to the south-west, is to give one looking across the country the impression of its being well-wooded. The Government roads have in places along them fine avenues of all sorts of trees (*shisham*, *siris*, &c.), and in a few years the canal also will have a very good show. Besides this there are two considerable plantations under the Forest Department, one in the Civil Station and one on the Phillour road near the river. The Malaudh Sardárs have two or three pieces of *Bír* or forest in the neighbourhood of Malaudh and of Sahna; and these cover a good deal of ground. The following is a list of the more common trees of spontaneous growth to be found in the district:—

Flora : Trees.

Vernacular or Local Name.	Botanical Name.	REMARKS.
Kikar	<i>Acacia arabica</i> ...	Grows in most parts of the district, but best in the east. Affects a stiff soil, and likes rain, but is very hardy. It is the zemindár's tree <i>par excellence</i> , being most useful for all agricultural purposes and roofing

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 Flora: Trees.

Vernacular or Local Name.	Botanical Name.	REMARKS.
Bér, Beri...	<i>Zizyphus jujuba</i>	Grows in most parts of the Dháia, and does well in sandy soil. Useful for its fruit, and also for its wood for roofing. Is planted in groves as a protection against sand drift.
Pípal: Barota or Bar	<i>Ficus religiosa</i> ; <i>Ficus indica</i>	Grow in all parts of the Dháia, where planted; generally on the edge of the village pond; useful for shade only.
Pilkan ...	<i>Ficus venosa</i> ...	Takes the place of the above in the Bét: grown for shade.
Farwáh or Farásh ...	<i>Tamarix orientalis</i>	Grows very generally where planted in the Bét, mostly round the village site: also, but more rarely, in the uplands. Useful for roofing.
Shísham ...	<i>Dalbergia sisso</i>	Grown along roads, &c., by Government.
Phulái ...	<i>Acacia modesta</i>	Grown in Bét and Dháia, often in groves: wood is useful for roofing, making doors, &c.
Dhék or Bakáin ...	<i>Melia sempervirens</i>	Planted at the wells in the Bét: grows very fast, and wood useful for roofing. The Aráins and Sainís usually grow the tree round their wells for its shade.
Ním ...	<i>Azadirachta indica</i>	A good tree for shade; not very common, and growing by itself both in Bét and Dháia. Wood is useful.
Tút ...	<i>Morus</i> ...	} Jangal trees (see above in the text.)
Dhák, Jand and Karfi	<i>Butea frondosa</i>	
	<i>Prosopis spicigera</i>	
Kaimb ...	<i>Capparis aphylla</i>	} There are one or two groves of this tree, which is useful only for shade.
		

It is not necessary to give a detailed list of the various fruit trees to be found in the gardens about the city and elsewhere, as these are the usual ones of the Punjab plains. Oranges and loquats seem to do best; but the district is a bad one for fruit.

Shrubs, grasses, &c.;
in the Bét.

In newly formed land along the river is to be found the usual growth of *pilchi* (*Tamarix orientalis*) here known as *jhao*. It is very useful for making baskets, and for lining temporary wells. There is also an abundant growth of *dib* grass (*Eragrostis cynosuroides*), of which chitái or matting is made; and in places of a plant called *kahi* which, when young and tender, is used for fodder, and when old hardens into a reed, used to make an inferior sort of pen. In the Budha there is a weed called *jála*, which is very largely used in clarifying sugar.

In the Dháia,
Sarwár.

Sarkanda (*Saccharum moonja*) generally called *Sarwár*, grows in many places of the Dháia, and is largely planted along roads, and where there are sand hills, with a view to stop the drift, which it does more or less effectually. The various uses to which this grass is put need not be detailed. There is a regular system of cultivating it. The year's crop is cut down in March or April, and fire applied to the stumps with a view of promoting fresh growth. It begins to spring immediately after the rains, and attains a height of ten feet or upwards. Large sums are realized by the sale of what is grown along the Government roads: and in places round Ludhiána it is found profitable to give up the cultivation of inferior sandy

soils and to plant this. There is a small shrub called *jhāre*, which deserves special mention for its usefulness. It is a small, prickly bush, which grows in abundance in the waste land of most villages; and, as it is called *mallah* in the *Jangal*, it is probably the same as the wild *bér* (*Zizyphus nummularia*). Twice in the year the growth in the village common land is cut, and the produce most carefully divided according to the proprietors' shares. When dry it is beaten with sticks and tossed with a pitchfork (*salang*), and the leaves thus separated from the branches, which make a most excellent hedge that will keep out anything. The leaves are given to the cattle as fodder, either alone or mixed with straw, and are said to be most strengthening. *Ak* (*Calotropis procera*) grows all over the district in the fields, and is cut down for firewood as fast as it appears.

The principal weeds that grow amongst the cultivation are *piāzi*, *kasumbhi* and *lehi*. The two first are so named from their resemblance to the onion and the safflower, and the last is the common field thistle. They all three flourish throughout the district; but the *Bét* soil appears to suit them best. *Piāzi* does the most harm, and a great part of the cultivator's time is taken up in rooting it out of his fields. The process is not attended with much success in the *Bét* and in Muhammadan villages elsewhere, and one often sees a field of wheat completely killed down by it. It appears to be impossible to clear land of the weed altogether, for there is a fresh growth every year; and, if left alone, it would very soon cover the fields. Other less common weeds are *bātku*, *chauri saroch*, *jaunchi*, *harmal*, *barru*.

The domestic animals will be appropriately mentioned elsewhere. The following very complete lists of the large mammals, the game birds, venomous snakes, and fishes commonly found in the district, was supplied to the Settlement Officer by Mr. F. Field, who, in addition to an extensive knowledge of natural history, had a minute acquaintance with the district. During the past five years, rewards to the amount of Rs. 241 have been paid for the destruction of 82 wolves and 5 snakes:—

List of the larger mammals found in the Ludhiāna District.

Name, English and Hindustāni.	Scientific Name.	Habitat, &c.
The Otter (H. Ood) ...	<i>Lutra nair</i> ...	Found all along the Sutlej; grows to a large size. They are also found occasionally along the reedy bed of the old bed of the Sutlej during the cold weather.
The Wild Cat (H. Jangli billi).	<i>Felis chaus</i> ...	Common about Ludhiāna, and in all grass jungles throughout the district, where they do great damage to the game of all sorts.
The Wolf (H. Bhe-riā, Bhagiār).	<i>Canis pallipes</i> ...	Found scattered throughout the district chiefly along the banks of the Sirhind canal. They seem to have increased within the last few years in this district, and do considerable damage to the village goats and calves.
The Jackal (H. Gidar)	<i>Canis aureus</i> ...	Common throughout the district.
The Indian Fox (H. Lumri).	<i>Vulpes bengalensis</i> ...	Thinly scattered throughout the district.

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Jhāre.

Noxious weeds.

Fauna.

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Fauna.

List of the larger mammals found in the Ludhiána District.—Contd.

Name, English and Hindustani.	Scientific Name.	Habitat, &c.
The Desert Fox (H. Lumri).	<i>Vulpes leucopus</i> ...	Thinly scattered throughout the district. Rarer in the cultivated parts but commoner than <i>V. bengalensis</i> towards the south and south-west.
The Porpoise (H. ?).	<i>Plantista gangetica</i> (?) <i>P. Indi.</i>	Found in the Sutlej; commoner in the cold season. The one found here is probably <i>P. Indi.</i>
The Hare (H. Saha, Sayar, Khargosh).	<i>Lepus ruficaudatus</i> ...	Found everywhere throughout the district; most plentiful to the south-west, wherever there is sufficient jungle; common all along the canal banks.
The Wild Pig (H. Jangli Sur).	<i>Sus indicus</i> ...	Found along the banks of the Sutlej, wherever there is sufficient cover; but common nowhere. Chief habitat, the long grass grown in the jungle to right of Railway Line to Phillour, where bunds, &c., have been erected.
The Nilgai (H. Roz).	<i>Portax pictus</i> ...	A few are found to south and south-west of district in jungles bordering on Native States, where, the Chiefs being Sikhs, they are more or less preserved, and are more common.
The Antelope (H. Mirg, Harn).	<i>Antelope bezoartica</i> ...	Found plentifully throughout the district. They rarely visit the low lands (Bét), but chiefly confine themselves to the higher land, where there are large plains surrounded by cultivation. Formerly large herds were found in the district; but now it is rare to see a herd of 100 individuals. In the south-west of the district their place is taken by the gazelle, and they are rarely or never seen. This is the more strange, as they are very common in Hissar and Sirsa, districts closely resembling the south-west of this district in quality of soil, &c.
The Gazelle (H. Harni, Chiu-kára).	<i>Gazella Bennettii</i> ...	The ravine deer of sportsmen, common throughout the district, chiefly wherever sand hillocks dot the plains; very common to south-west of this district where it entirely supplants the antelope

List of the Game Birds found in the Ludhiána District.

No. in Jerdon.	Name.	Scientific Name.	Habitat, &c.
799	The large Sand Grouse (H. Bhattitar).	<i>Pterocles arenarius</i> ...	Comes in immense flights in the first week of November, though occasional small flights may be seen in the end of October. It remains till March and re-migrates north.
801	The large Pintail Sand Grouse (H. Bhattitar.)	<i>P. alchata</i> ...	Occasionally found mixed up with <i>P. arenarius</i> , but rare. Probably more numerous to the west and south-west of the district.
802	The small Sand Grouse (H. Bhattitar).	<i>P. exustus</i> ...	The rock pigeon of some sportsmen; much rarer than <i>P. arenarius</i> ; commonest to south and south-west of the district.
803	The Peacock (H. Mohr).	<i>Pavo cristatus</i> ...	Found in very many parts of the district. It is semi-domesticated, and is generally to be found near villages. It is held sacred by some of the villagers.

List of the Game Birds found in the Ludhiána District—Contd.

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No. in Jerdon.	Name.	Scientific Name.	Habitat, &c.
818	The Black Partridge (H. Kála Títar).	<i>Francolinus vulgaris</i>	Nowhere very common; but a few are to be found along every mile of the Sirhind Canal. Also found in all the jungles to the south of the district. Not common to the south-west, where the grey partridge has supplanted it.
822	The Grey Partridge (H. Títar).	<i>Ortygornis ponticericana</i> .	Found sparingly everywhere wherever there is any jungle; near a village they seem specially to congregate; but wherever there is grass or bush they are to be found. To the south-west of the district they are most plentiful.
829	The Quail (H. Batair).	<i>Coturnix communis</i> ...	Plentiful from April till the <i>rabi</i> crop is cut. Again they come in in September and stay till the <i>kharif</i> crop is cut; some few birds stay in long grass, &c., all the cold weather, and a very few stay and breed here in June and July.
830	The Rain Quail (H. Batair).	<i>Coturnix coromandelica</i>	A rainy season visitor. It comes in in July, when its peculiar "wheet-wheet" is to be heard in cloudy weather all day. It leaves before <i>C. communis</i> arrives as a rule, though occasionally both birds may be flushed in one field.
834	The large Button Quail (H. Batair).	<i>Turnix dussumierii</i> ...	This bird occasionally is flushed when quail-shooting in September and October, but is by no means plentiful and stays a very short time.
835	The Button Quail (H. Chota Batair).	<i>Turnix sykesii</i> ...	Found occasionally in the spring and autumn crops. It has a very strong scent, and dogs invariably put them up, though they may fail to put up a common quail.
836	The great Bustard (H. Tughdár).	<i>Eupodotis Edwardsii</i>	During certain times of the year visits the south-west of the district, probably during the hot weather and rains.
837	The Oubara (H. Khur Mohr. P. Tilao).	<i>Houbara Macqueenii</i> ...	A very few of this species visit this district during the cold weather. Occasionally a flock takes up its residence near an open bush jungle, and stays for a month or so; but this is rare.
839	The lesser Florican (H.....?)	<i>Sypheotides auritus</i> ...	Once, and only once, this bird was seen in this district. It was in September and was emigrating probably. It was in the "People's Park" at Ludhiána close to the civil station.
851	The Lapwing (H. Titiri).	<i>Vanellus cristatus</i> ...	Found all along the Sutlej, but chiefly along the banks of the "Budha Nála," where it is plentiful during the cold weather.
853	The white tailed Lapwing (H.....?)	<i>Chettusia leucura</i> ...	Common along the "Budha Nála" every cold weather, notwithstanding Jerdon's remark that it is a rare bird in India.
863	The Sarus Crane (H. Taras.)	<i>Grus antigone</i> ...	Occasionally found in pairs about the district, chiefly to the south.

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List of the Game Birds found in the Ludhiána District.—Contd.

No. in Jerdon.	Name.	Scientific Name.	Habitat, &c.
865	The Koolan (H. Kúnj).	<i>Grus cinerea</i> ...	A cold weather visitant in large numbers. It comes in in October and leaves in the end of March; spends the day near or on the river Sutlej, and flies inland to feed on the green crops or sown grain morning and evening.
866	The Demoiselle Crane (H. Khar-khair.)	<i>Anthropoides virgo</i> ...	On its passage to and from lower India, this handsome bird occasionally stops to rest and feed on the Sutlej. It is only in October and the latter half of March that it is ever seen, and then only for a day at a time. It never makes a prolonged stay here, being more of a jhil-loving bird than its congener <i>G. communis</i> .
871	The Snipe (H. Cháha.)	<i>Gallinago scolopacinus</i>	The full snipe of sportsmen. Common all along the "Budha Nála" and rushy places throughout the district. The first flight arrive about middle of September; no more come till October, when they straggle in; nowhere to be found in considerable numbers till January. They stay till end of March, and the last flights pass through in the end of April.
872	The Jack Snipe (H. Cháha).	<i>G. gallinula</i> ...	Arrive in the end of September and stay till April.
873	The Painted Snipe (H. Cháha).	<i>Rhynchoa bengalensis</i>	Found throughout the district, commonest in the early cold weather. Affects all the swamps and pools. Breeds in the district where it has been seen all the year round.
875	The Godwit (H. Cháha).	<i>Limosa egocephala</i> ...	Found in the cold weather and beginning of the hot near the Sutlej on all large pools and swamps.
877	The Curlew (H. Cháha).	<i>Numenius arquata</i> ...	Frequents the "Budha Nála" and the land lying near the Sutlej, where it feeds in the fields, &c. A cold weather visitant.
944	The Flamingo ...	<i>Phænicorytorus roseus</i>	Stragglers no doubt visit this district during the late rains and early cold weather. Shot once at Miáni.
949	The Barred-headed Goose (H. Mag)	<i>Anser indicus</i> ..	Visits the district in considerable numbers in the cold weather; stays from October to March. They spend the day by the rivers, visiting the gram fields inland during the morning and the fields near the rivers in the afternoon.
950	The Black-backed Goose (H. Nagta).	<i>Sarkidiornis melanotus</i> .	May be found occasionally towards Miáni, Machiwára, &c., in the rains.
945	The Grey Goose (H. Mag).	<i>Anser cinereus</i> ...	Visits the district during the cold weather. Habits identical with <i>A. indicus</i> . Some few flocks live in the interior of the district for two or three months away from the Sutlej.
951	The White-bodied Goose-teal (H. ...?).	<i>Nettapus coromandelianus</i> .	Found occasionally in the beginning of the cold weather and occasionally in the hot, along the Sutlej and Budha Nála.

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No. in Jerdon.	Name.	Scientific Name.	Habitat, &c.
953	The Whistling Teal (H. Murghábi).	<i>Dendrocygna awasuree</i>	Found during the hot weather all along the Sutlej.
954	The Ruddy Shield-rake (H. Surkháb, Kawnk).	<i>Casarca rutila</i> ...	Visits the "Budha Nála" occasionally in the cold weather, and in considerable numbers the Sutlej. Feeds often on gram inland in large flocks.
957	The Shoveller (H. Murghábi).	<i>Spatula clypeata</i> ...	Visits the district in the cold weather, and may be found on all village tanks and jhils till April.
958	The Mallard (H. Murghábi).	<i>Anas boschas</i> ...	Cold weather bird, found in huge flights on the Sutlej and also on "Budha Nála." Arrives in November.
959	The Spotted-billed Duck (H. Murghábi).	<i>Anas pæcilorhyncha</i> ...	The "wax bill" of some, found occasionally on the Sutlej and "Budha Nála" during the hot weather as well as the cold.
961	The Gadwall (H. Murghábi).	<i>Chaulelasmus streperus</i>	Comes in October, and is very common in all jhils as well as on the Sutlej and "Budha Nála." Comes at night in huge flights to feed on the weeds in the nála.
962	The Pintail (H. Murghábi).	<i>Dafila acuta</i> ...	A few flights are seen every year. Commonest in the beginning of the year in the ponds in the interior of the district.
963	The Widgeon (H. Murghábi).	<i>Mareca penelope</i> ...	Some few are seen every cold weather, but never in any numbers.
964	The Teal (H. Murghábi).	<i>Querquedula crecca</i> ...	One of the commonest cold weather birds. Found in all pools and on Sutlej and the "Budha Nála;" comes in end of September and goes in April.
965	The Garganey (H. Murghábi).	<i>Q. circia</i> ...	Some few visit the district in September and October, but disappear again till March. Nowhere very common.
967	The red-crested Pochard (H. Murghábi).	<i>Brauta rufina</i> ...	Visits the Sutlej and "Budha Nála" in large numbers in February and March. It has also been shot in July in the district.
969	The White Eye (H. Murghábi).	<i>Aythya nyroca</i> ...	Visits the Sutlej and "Budha Nála" in the cold weather.
971	The Golden Eye (H. Murghábi).	<i>Fuligula cristata</i> ...	It is the tamest and the commonest duck found; occasionally a few flights visit the district in the winter, principally in March.
	The White-headed Duck (H. Murghábi).	<i>Erismatura leucoccephala</i> .	One specimen of this very rare bird was shot in the district.
972	The Merganser (H.?).	<i>Mergus castor</i> ...	Found on the Sutlej occasionally though rarely during the cold weather.
973	The Smew (H....?).	<i>Mergellus albellus</i> ...	Found occasionally in the cold weather.
1004	The Grey Pelican (H. Psinh).	<i>Pelecanus Philippensis</i>	Found in the "Budha Nála" and Sutlej during the hot weather and rains.

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List of the Thanatophidia or Venomous Snakes in the Ludhiána District.

Name	Scientific Name.	Habitat, &c.
The Cobra (H. Kála Sámf.)	<i>Naja tripudians</i> ...	The most deadly, as well as the most common, of all the poisonous snakes in the more cultivated parts of the district, and wherever there is cultivation, gardens, &c.; also in all the jungles. It grows to a large size, having been killed 6 feet long. In the open sandy parts of the district it is supplanted by <i>E. carinata</i> .
The Ringed Snake (H. Karait).	<i>Bungarus cæruleus</i> ...	Inhabits the same country as the cobra, except that it is not found in jungles. Commonest about gardens where there are old walls, &c. Hardly less deadly than the cobra, and as it has a habit of curling up by doors and under chicks, &c., and not moving at the approach of man, it is a most dangerous snake.
The Russell's Viper (H.....?)	<i>Daboia Russellii</i> ...	Rare in this district, but found occasionally, chiefly towards Machiwára and Bahlolpur to the north-east of this district.
The Chain Adder ...	<i>Echis carinata</i> ...	Very common throughout the district in the drier and more sandy parts. A small sluggish snake, and fortunately less deadly than any of the three foregoing species; otherwise there would be more deaths from snake-bite than there are. On being met at night it never attempts to get out of the way, but curls up in an attitude of defence and gives out a hissing noise by rubbing its carinated scales together. When a report of the poisonous snakes of this district was being prepared in 1871 (?) a very great number of these snakes were brought in. Their captors said they found them under any old logs about the fields or villages on the higher lands. This is the celebrated "Kupper" of Sindh probably, where it appears to be more deadly than in the Punjab.

List of the commoner Fishes found in the Ludhiána District.

- The Mahásir ... Found throughout the year in the Sutlej and the Budha Nála. In the Sutlej they run to a large size, some specimens weighing about 50lbs. and over. They spawn in the rainy season.
- The Rohú ... Found in the Sutlej and the Budha Nála; is even commoner than the Mahasir. It spawns in July and August. It runs to about 20 or 30lbs.; larger specimens are rarely found.

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- The Sewal ... When in condition one of the best fish for the table found here. There are several varieties of this fish. Its appearance changes greatly with the season and the water it is found in. It spawns late in the year, and the young may be seen in countless numbers in pools at that time.
- The Bachwa ... During the rains, after the first heavy floods have swept down the Budha Nála, this fish begins to run up. It is rarely in good condition owing to the thickness of the water, but is notwithstanding the very best eating fish to be had here. In the Sutlej it is found in great quantities near any places where young fish congregate. It probably migrates for part of the year and also to spawn.
- The Tingra ... Small specimens of this fish are found in any numbers in the Budha Nála and Sutlej. It rarely runs large, yet specimens of 5lbs. or so are sometimes caught by the fishermen.
- The Eel ... "Bám." Common in the Nála and Sutlej. In the latter it is occasionally found very large, 8 or 9lbs. in weight, but in the Budha Nála specimens of 1lb. even are rare. It is found all the year round and does not appear to migrate.
- The Mohú ... This fish is found after the rains. It runs up after the heavy floods in the rains, and grows to a large size. Very commonly found 5lbs. in weight. It has a curious habit of rising constantly to the surface of the water and turning over, showing its very broad silvery side.
- The Chapta ... Very like the Mohu, and closely allied to it in habit. It is commoner, and is found all the year round. It has the habit of turning over on the surface. It is a small fish, rarely weighing $\frac{1}{2}$ lb. in weight.
- The Mallí ... A common and very voracious fish, the shark of this part of the world. It runs to a large size in the Sutlej, and fair sized fish come up the Budha Nála in the rains. It breeds in July and August like the Rohu.
- The Singhí ... A not very common and very repulsive-looking fish, very dark purple or red. Said to be a good table fish; but its looks keep people from trying it.
- The Chilwa ... Common in both the Sutlej and the Budha Nála, where in autumn and spring it may be seen rising at gnats in hundreds like trout. By all accounts, owing to excessive netting with small meshed nets, this fish has been considerably thinned out near towns.
- The Rewa ... Something like a small Mahásír, but with scales like a grayling in parallel rows along the body. Has a curious habit of swimming in companies about on the surface with its mouth out of the water during the late autumn and spring.

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Sport : Small game.

In the cold weather wild fowl are plentiful along the river and in the Budha Nála, but they are much disturbed in the neighbourhood of Ludhiána by native *shikáris*. Very fair snipe-shooting may be had under Machiwára. Flocks of kulan and geese are also to be met with in the fields. In the uplands there are a good many hares, though the Jat of the present day is fond of coursing : and partridges, black and grey, are to be found in the sugarcane fields or where there is a small patch of jungle. Quails are abundant in their seasons ; and sand grouse of several sorts are to be found in numbers in the cold weather amongst the *moth*, &c., stubble in sandy soils, as well as flocks of wild pigeon. Peacocks are common in the eastern part of the district, and live in the sugarcane fields. The ordinary Jats have no great objection to their being shot ; but the birds are really half tame, and only eatable when young. Owing to the absence of cover it is not generally an easy matter to make a large bag, except, perhaps, amongst the quail or snipe ; and one brings home from a day's shooting a most miscellaneous collection of game picked up in the fields. In some of the detached villages, which have a growth of jungle left, it is possible to get a good bag of grey partridge and hare : and there are some *bírs* or reserves in Patiala territory which are strictly preserved and abound with game. Pigs are very common along the river just under Ludhiána. They find shelter mostly in the forest plantation on the Phillour road and in a large piece of land beside the river, covered with high grass, which has been taken up by the Railway Company for purposes of protection of their bridge. The number of pigs appears to have increased within recent years ; and it is only here that they are found. They come out at night in swarms and ravage the fields to great distances about, devoting most of their attention to sugarcane, maize, &c., of which they are fond ; but also rooting up the young spring crops from sheer vice. They are fondest of the *ponda* or thick sugarcane ; and in Rajowál and other villages, where it is grown extensively, the people are out all night along the boundaries of their fields with fires lighted and keeping up a continual noise. The pigs, however, do not appear to mind this, and get into the field. The amount of injury done by these pests is very large ; but no systematic attempt has been made to kill them down. It is not possible to ride after them owing to the rough and broken nature of the country and the difficulty of getting them out. An occasional sportsman shoots a few, but the loss is not felt. The antelope and ravine deer are common in most places ; and one has to go a very few miles from Ludhiána to get a good black-buck. The deer are very tame ; but shooting them is attended with considerable risk, owing to the perfectly flat nature of the country, and the number of people that are always working in the fields. Nilgai are found in some of the waste lands belonging to our detached villages.

Figs.

Deer.

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History.

Physical changes.

There are no signs to indicate that the Ludhiána district has been the scene of any great physical change. The Sutlej appears always to have been confined to its present valley, though within this it has shifted about a good deal. The last change took place about 100 years ago, when the river abandoned its course under the ridge that separates the lowlands from the Dháia where now the Budha Nála flows, and transferred to this side the whole of the present Bét tract, which was then for the most part uninhabited. The towns of Bahlolpur, Máchiwára and Ludhiána, and the old villages, such as Kum and Bhundri, which lie on the top of the ridge, were built on the bank of the river. There is nothing to show that the uplands were ever traversed by streams unless, indeed, the sand belts of the Samrála tahsíl mark the course of hill torrents long since dried up. There are no local traditions indicating that such is the case, but this source of information would not go back more than 300 or 400 years. It is clear that such changes as have taken place in the appearance of the country are the work of man and not of nature.

Few districts possess greater historical interest than Ludhiána, which must from its situation have been at all periods the scene of most important events. Lying as it does on the high road from Central Asia, it would be crossed by each successive wave of conquest or immigration; and, when we come to historical times, we find that some of the most decisive conflicts for empire took place in this neighbourhood. The Punjab was always an outlying province of Hindustán, and its loss was not fatal; but, once across the Sutlej, an invader had nothing between him and Delhi. Perhaps the greatest interest attaches to the country as the scene of the struggles between rising Sikhism and the Muhammadans; and when at the beginning of the present century the English power extended northwards till finally we succeeded to the empire of India, the Sutlej was fixed as the limit of our territories; and Ludhiána was for nearly half a century our frontier garrison at the point where we were in contact with the only remaining independent power, that of the Punjab.

Importance of the district in history.

Little can be said of the Hindu period, for there is an absolute dearth of materials on which to found anything resembling history. Mr. Tolbort writes: "I presume that it formed a portion of the kingdom of Magadha; Sunet, Tihára Máchiwára and Bahlolpur date from the Hindu period. It is said that Machiwára is mentioned in the Mahábhárat, and that Bahlolpur formerly bore the name of Muhabatpura." But, as he points out elsewhere, there are many Máchiwáras. It is possible that antiquarian research may give us some information, but at present it has been applied only to the mound at Sunet, a village three or four miles west of Ludhiána.

Early history :
Hindu period.

Sunet.

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 Sunet.

This mound is of very considerable extent, and clearly marks the site of an important city. It was visited by General Cunningham in 1878—79, and the result of his enquiries will be found at pages 65—67, Vol. XIV of the Archæological Survey. General Cunningham examined bricks, one or two sculptures and a number of coins; and his conclusions from an examination of the last are as follows: "From these coins the following facts may be deduced with almost absolute certainty:—

"(1). The town of Sunet was in existence before the Christian era as evidenced by the coins of Uttamadatta and Amoghabhuti. It continued to flourish during the whole period of the dominion of the Indo-Scythians, and of their successors who used Sassanian types down to the time of Samonta Dewa, the Brahmin King of Kábul and the Punjab.

"(2). From the total absence of coins of the Tomará Rájas of Delhi as well as of all the different Muhammadan dynasties, it would appear that Sunet must have been destroyed during one of the invasions of Mahmúd of Ghazni, and afterwards remained unoccupied for many centuries."

There are various legends about the destruction of Sunet, all of which represent the last Rája as living on human flesh and as owing his downfall to not having spared the only child of a Brahmin widow. Mr. Tolbort appears to think that the town was overthrown by an earthquake. However this may be, it is likely that Sunet was the head-quarters of some Hindu kingdom, small or great; but more we cannot tell.

Tihára.

Current tradition identifies Tihára in the north-west corner of Jagraon tahsil with the city of Varát mentioned in the Mahábhárat; and this is said to have been its name up to Muhammadan times. It was a place of some importance under the Mughals; but the old town has long since disappeared into the river which ran under it, and the present site is at some distance from the former one. Tihára may have been the capital of a small Hindu kingdom. There was also a city call Mohabatpur close to Bahlolpur; but of this too all traces have disappeared. It is quite possible that in Hindu times the country was to some extent inhabited by a nomad people, and that there were a good many towns and villages along the banks of the river; but they and the races that dwelt in them have long since disappeared, perhaps in the time of the early Muhammadan invasions when the country was overrun by plundering Biluchis and other tribes. The ancestors of the present agricultural population certainly immigrated within the last 700 or 800 years. The Rájputs were the first settlers, and came from the south. They say that in the reign of Shaháb-ud-dín Ghori (A. D. 1157) their ancestors found the country all waste and obtained from the Emperor the grant of a large tract of land along the Sutlej, in which they settled. Their villages are almost all found along the ridge over the old course of the river, or in the valley beneath. They were followed by the Jats who mostly came from the same direction as the Rájputs, and began to settle in the uplands 400 or 500 years ago, first in the eastern parts, and much later in the west. tahsil Jagraon. &c.

There is no information about the district during the earlier Muhammadan invasions; and it is not till the time of the Lodís that the name is mentioned. The local history of Búte Sháh, which is generally very reliable, gives the following account of the first attempt to establish a settled government in these parts: "In the reign of Sikandar, son of Bahlol Lodi, the people about Ludhiána were oppressed by the plundering Biluchís, and applied to the Emperor for assistance. Sikandar, in answer to their prayer, sent two of his Lodi chiefs, by name Yúsaf Khán and Nihang Khán, with an army. These chiefs fixed on the present site of the Ludhiána city, which was then a village called Mir Hota, as their head-quarters and restored order to the country about. Yúsaf crossed the Sutlej to check the Khokhars, who were then plundering the Jullundur Doáb, and settled at Sultánpur. Nihang Khán remained at Mir Hota as the Emperor's Lieutenant; and called the place Ludhiána. He was succeeded by his son and grandson. The latter, Jalál Khán, built the fort of Ludhiána out of the bricks found at Sunet. His two sons partitioned the country round about Ludhiána, which was then lying waste, amongst the people of the town, and distributed them in villages. In the time of Jalál Khán's grandsons, Alu Khán and Khizr Khán, the Lodi dynasty was overthrown by Bábar; and the Lodís of Ludhiána sunk to the position of ordinary subjects of the Mughal empire. They are said to have lived close to the fort for many generations, but all traces of them have now disappeared, and even the tombs of Nihang and his immediate descendants have been lost sight of, although they are said to have been standing some years ago." Without vouching for the accuracy of this account it may be said that the founding of the city of Ludhiána, and the first systematic attempt to people the country about it, date from the reign of the Lodi dynasty who held the throne of Delhi from 1450 to 1525. Under Bahlol Lodi's "beneficent administration the prosperity of the country reached its summit, and the limits of the empire were extended to the Indus"—(*Marshman*); and the reign of his successor, Sikandar, was a most prosperous one.

The progress of the country does not appear to have been impeded by the change of rulers; and the Mughals established a strong government at Sirhind, to which Ludhiána and the country about it were attached as a *mahál* or *parganah*. Sirhind, with the rest of the empire, passed into the hands of the Sur dynasty; and it was at the town of Máchiwára, 25 miles east of Ludhiána, that Humáyun fought the battle with Sikandar Sur, which restored him to the throne of Delhi in 1555. It is to the reign of Akbar (1556-1605) that most of the people in the eastern part of the district ascribe the advent of their ancestors and the founding of their villages, and it is most probable that before the commencement of the 16th century there were only a few villages scattered over the district (mostly Rájput), and that the great immigration of Jats, who occupy the whole of the uplands, began under the settled rule of the Lodís and continued during the whole of the 16th century. The Aín Akbari enumerates the following *maháls* (or *parganahs* as we should call them): Tiharáh, Hatur, Bhundri, Ludhiána, Máchiwára and also Pael and Duráhá. The first three

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History under the Pathán dynasties : founding of the town of Ludhiána and first settled government of the country under the Lodís.

The Mughal Empire.

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The Mughal Empire.

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Empire.

are still considerable villages in Jagraon tahsíl. The town of Pael and the village of Duráhá are situated in Patiála territory between Ludhiána and Samrála; and it is clear that these seven maháls, which were in the Sirhind division or *Sarkár* of the Delhi Province or *Subáh* covered most of the present Ludhiána district and the adjoining parts of Patiála territory.

During the century-and-a-half which followed the death of Akbar, historical interest centres for this part of the country in the rise of Sikhism as a power, and the constant struggles between the followers of the Gurus at first, and latterly the Phulkíán and other Sikh chiefs on the one hand, and the local representatives of the empire on the other. The life of Nának was contemporary with the reign of the Lodi dynasty: and Hargovind, the sixth Guru, was engaged during the latter years of Jahángir's reign in petty warfare with the imperial troops. Aurangzeb ascended the throne in 1657; and the ninth Guru, Tegh Bahádar, was murdered by his orders at Delhi in 1675. Govind Singh, the last of the Gurus, succeeded Tegh Bahádar; and under him commenced the long struggle between the Cis-Sutlej Sikhs and the Muhammadan Governors of Sirhind, which was only a part of Aurangzeb's persecution of the rising sect. This district, with the adjoining country to the south, was the scene of many of the great Guru's wanderings and encounters with his enemies; and it was in Sirhind that his wife and children were murdered about the year 1700—a deed that has made the place for ever accursed to all true Sikhs. It is probably to the bigotry and persecution of Aurangzeb (whose memory the Sikhs to this day hold in great detestation, invariably referring to him as "Ranga") that we should ascribe the union of the followers of the Gurus into a militant power with one common object. Aurangzeb died in 1707 and Govind Singh in 1708. The latter was succeeded as leader of the Sikhs by Banda, under whom their arms were at first attended with success, the imperial troops being defeated and Sirhind sacked in 1709. But, although they twice overran the country between the Sutlej and the Jamna, they were finally dispersed, and Banda taken and executed in 1716. For a generation after this event the Sikhs were much depressed and persecuted; and it was only when all energy had departed from the empire that they were able to raise their heads again. From this time the struggle was continued by the Phulkíán and other chiefs, who saw their way to establishing kingdoms for themselves on the ruins of the empire, now tottering to its fall. Ala Singh, the founder of the Patiála house, succeeded his father Rámá in 1714; and was a contemporary of Rai Kalha (II) of Raikot, under whom the Rais of Raikot, who had hitherto held the lease of a considerable tract of land from the emperors (see history of the family in Chapter III, page 112), first asserted their independence. The district as now constituted cannot be said to have a separate history of its own during these times; and it would be impossible to detail here in full the conflicts between the various claimants for the territory which now makes it up. The principal actors in this scene were the Rai, Rájá Ala Singh of Patiála, and the representative of the Delhi Empire at Sirhind. In 1741 we

find a combination of the two last against Rai Kalha, who had been endeavouring to throw off the Imperial authority. Rai Kalha was defeated and chased out of the country, but he soon recovered the territory which he had hitherto held as a fief of Delhi. The alliance between the Sikhs and the imperial troops lasted for a very short time; and the Rai was able to extend his territories unopposed, there being plenty of room for him to do so at the expense of the empire without danger of interfering with schemes of the Sikh chiefs. In a foot-note to page 60 of the Punjab "Rájas" is given a short sketch of the history of the Rais, and it is said that they got possession of the town of Ludhiána in 1620; but this is evidently a mistake. The town and fort of Ludhiána did not fall into the hands of the Rais till about the year 1760 A.D.

The invading army of Nádir Sháh Duráni crossed the Sutlej at Ludhiána, which was then on its banks, and marched through the district along the Imperial highway connecting Lahore and Delhi, the course of which corresponds with that of the present Grand Trunk Road and Railway. Nádir Sháh is said to have ordered a general massacre of the inhabitants of Ludhiána on account of some petty fault; but it appears doubtful if he did. Ahmad Sháh entered India on his first expedition in 1747. On reaching the Sutlej at Ludhiána, he found his passage opposed by the son of the emperor and the Vazir, Kamardín, with a large army which had advanced from Sirhind. Ahmad Sháh, adopting the usual Duráni tactics, made a long night march up the right bank of the river; and crossing about Máchiwára or Bahlolpur, endeavoured to throw himself between the Vazir and Sirhind. The two armies came face to face on a sandy plain between the villages of Mánupur, Barwáli, &c., a few miles to the north-east of Khanna, in the Samrála tahsíl. The Imperial troops took up a strong position from which the Duráni could not dislodge them. Desultory fighting went on for many days, and in one of the skirmishes Kamardín was killed. His son, the distinguished Mír Mannu, was equal to the occasion; and, seating the body of his father on an elephant, paraded it before the troops. Ahmad Sháh had finally to retire discomfited. It is said by the villagers about that the loss on both sides was very heavy; and that for a long time the stench of the dead bodies made the cultivation of the fields impossible. To the subsequent invasions of Ahmad Sháh no resistance was attempted by the Imperial troops in Sirhind; but his armies were constantly harassed by the Phulkián chiefs and the Rais. It was some time about 1760 that the Rais were permitted by him to take possession of the town and fort of Ludhiána and to extend their power over the country about. In 1761 Zain Khán was appointed by Ahmad Sháh as Governor of Sirhind. In the following year there was a formidable combination against Zain Khán of all the Phulkián and other Sikh Cis-Sutlej chiefs, assisted by numerous bands of Sikhs from the Mánjha or Punjab proper. Ahmad Sháh heard of this at Lahore; and, marching to the Sutlej in two days, he crossed at Ludhiána and fell upon the allies a short distance to the south of it just as they were attacking Zain Khán. The Sikh army was cut to pieces, and the fugitives pursued to a great distance. This disaster

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Duráni invasions :
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Sirhind by the
Sikhs (1738-1763).

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Duráni invasions :
to the taking of
Sirhind by the
Sikhs (1738-1763.)

Partition of the
country after the
fall of Sirhind.

(called the "Ghalu Ghára," or great massacre) does not appear to have had much effect on the Sikhs, for in the following year, 1763, they were able to bring together a large army composed of the Cis-Sutlej Sikhs, aided by bodies of their co-religionists from across the Sutlej. Zain Khán was defeated and slain, and the Sikhs, following their victory, took possession of Sirhind, which they levelled with the ground.

With the fall of Sirhind vanished the last vestige of Imperial control over that portion of the empire of which it was the headquarters; and when in the next year Ahmad Sháh passed through the country he recognized this by appointing Rája Ala Singh of Patiála to be Governor. In 1767 Ahmad Sháh reached Ludhiána on his last expedition into India, but got no further. He confirmed Amar Singh, the grandson of Ala Singh, in the government of Sirhind, and gave him the title of Mahárája; and from this time the Sikhs and other chiefs who had taken possession of the country were left alone to settle their own affairs. The Imperial authority had to the last been maintained over most of the country lying between Ludhiána and Umballa, and round the head-quarters of the Sarkár or division. On the fall of Sirhind the whole of this rich tract fell into the hands of the Phulkiáns and their Mánjha allies. The present Samrála tahsil and a small portion of the east of Ludhiána were partitioned between the latter, each chief and confederacy seizing as many villages as they could. The eastern boundary of the territory of the Rais had in the few years preceding the capture of Sirhind been quietly advanced eastwards from Badowál, Dhándra, &c., so as to include the town of Ludhiána and the whole of the villages in the uplands to the south and east of it to within a few miles of Máchiwára. Their northern boundary was the river Sutlej, which then flowed under the high bank along the present course of the Budha. The low lands opposite them were held to the south of Ludhiána by the Kákar Sirdárs and Diwán Mohkam Chand, and to the north by Tára Singh Ghaiba (also a Kákar). There was no Bét on this side. The Malaudh Sirdárs had already established themselves in the south of Ludhiána tahsil (the *Jangal* villages and the country about Malaudh); and Sudha Singh, Gil, an adventurer from Loháru in the Ferozepore district, secured a few villages about Sánahwál. With these two exceptions the whole of the present uplands of the Jagraon and Ludhiána tahsils belonged to the Rais; and they had also a considerable part of the Moga and Zira tahsils of Ferozepore, in all 1,360 villages, it is said. The Samrála tahsil was divided as follows: Sudha Singh, Bájwa, seized Máchiwára and the eastern portions of the Utálan parganah; and the western half fell into the hands of the Ladhran Sirdárs. In parganah Khanna some villages were held by a servant of Tára Singh Ghaiba, who subsequently set up for himself at Khauna; and the rest was divided between the Khéri, Bhari, Ajner, Jabu mazra Sirdárs and members of the Sontiwála and Nishánwála confederacies. Jassa Singh, Ahluwála, (Kapurthala) got 30 or 40 villages round Isru. Under the Rais the Garewáls of Raipur and Gujarwál had some sort of local authority in the villages about; but they were only "málguzárs" or contractors for the revenue.

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Change in the river's course.

Twelve years after the fall of Sirhind, about the year 1785 A.D., occurred the change in the course of the Sutlej, to which reference has already been made; and the whole of what is now the Bét of the district came to this side, a tract upwards of 50 miles in length and five or six in width. It was at the time in the possession of the Kákars, Tára Singh Ghaiba, whose head-quarters were at Rahon, having the upper part, and his brethren the lower portion, what is now the Nurpur parganah; and these chiefs retained their hold in it, except where Sudha Singh of Sánahwál seized some uninhabited portions in front of his upland villages, about Matewúrah. There was then very little cultivation in the tract, the villages being few and far between. Most of the present ones owe their foundation to these chiefs, and date it from within the last 100 years.

The Rais had a number of forts at different places, and each Sikh chief erected one or two according to the size of his possessions. This partition of the country appears to have been recognized by the various parties to it; and during the last forty years of the 18th century they do not seem to have attempted any encroachment on each other's territories, but to have gone on very amicably.

The condition of the country during the latter part of the 18th century was one of considerable prosperity. The rule of the Rais is still spoken of as being very mild; and it is said that they fixed only one-fourth of the produce as their due. The peasantry were probably very glad to have the struggle, which had been going on for so long, finally ended; and the petty chiefs appear to have done their best to encourage the spread of cultivation. They took a full revenue in kind, and exercised a good deal of petty tyranny; but one does not hear much of exactions in the early years of their rule; and they had scarcely time to engage in petty quarrels amongst themselves before the arrival of Ranjít Singh. The Dháia villages mostly date their founding from a much earlier period; but the Bét tract at the time of its transfer to this side of the river was mostly waste; and the greater part of the present small villages owe their origin to the Kákar and Ghaiba Chiefs. One hears of few instances in which the proprietary body were at this time driven to desert their land by the oppression of the rulers. In fact the condition of the people was very much better at this time than it was subsequently under the followers of Ranjít Singh.

The peace which the country enjoyed after the fall of Sirhind was interrupted by the appearance on the scene of Bedi Sáhíb Singh of Una. This fanatic crossed the Sutlej in 1794 A.D., with an army of Sikhs from the Jullundur Doáb, proclaiming a religious war against the Patháns of Máler Kotla. He was turned aside from Máler Kotla by the Patiála chief; but in 1798 again crossed and made a similar attack on the Rais of Raikot. Rai Aliás was a minor; but his agent Roshan, Gújar, made a good stand against the Sikhs at Jodh, ten miles southwest of Ludhiána. Roshan was killed in the fight, and the Rai's army dispersed; but the Phulkian chiefs, who had always been on good terms with their Muhammadan neighbours of Kotla and Raikot, and who had no intention of allowing the Bedi to establish himself in their midst, now came to the assistance of the Rai, and drove the invaders out of most of the villages

State of the country at this period.
Attacks of Sikhs from across the Sutlej: the Bedis.

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Mahārāja Ranjit Singh's invasions and annexations : extinction of the power of the Rais : division of the country.

seized by them. The Bedi thereon invested the fort of Ludhiāna; and the Rai called in the adventurer George Thomas from Hānsi. On Thomas' approach the Bedi retired across the river, and ceased to trouble the country.

The capture of Delhi in 1803 brought the English into direct contact with the Cis-Sutlej chiefs from the south, and about the same time Mahārāja Ranjit Singh, having extended his dominions to the north bank of the Sutlej, began to think of conquest beyond it. The disputes between the states of Patialā, Nābha and Jind afforded him the desired opportunity, and in July 1806 he crossed the Sutlej with an army. The last of the Rais (Aliās) had been killed while hunting in 1802; and the family was represented by his widow, Bhāg Bhari, and his mother, Nūr ul Nisa. No opposition was offered to Ranjit Singh, who took possession of the town and fort of Ludhiāna, and made them over with the villages about to his nephew, Rāja Bhāg Singh of Jind. He proceeded to Patialā on pretence of settling the disputes between the three chiefs, and returned to the Punjab *viâ* Umballa and Thānesar. In the following year (1807) he was again called in; and, crossing at the Hariki ford (Sobrāon), he proceeded to Patialā, and thence marched into the Umballa district, where he besieged and took Naraingarh. During these two expeditions Ranjit Singh, besides stripping the Rais of all their territory save two or three villages given for maintenance, also annexed the possessions on this side of the river of Sudha Singh (Sānahwāl) which were held by his widow, Rāni Lachmi, as well as of Tāra Singh Ghaiba, also held by a widow, together with the Kākar villages. The spoilation of the Ghaiba family was perhaps the most shameless of all these transactions, as Tāra Singh died in this very year while accompanying the Mahārāja on his expedition. These conquests were divided by the Mahārāja between himself and his adherents. Rāja Bhāg Singh of Jind got about 100 villages round Ludhiāna and in the Bassian *ilāqa*; Sirdār Fattah Singh, Ahluwālia (ancestor of the present Kapurthala chief), nearly the whole of the Jagraon tahsil and the Dākha parganah; Sirdār Gurdit Singh of Lādwa, a number of villages about Badowāl; Bhāi Lāl Singh of Kaithal, 16 villages about Gujarwāl; the Nābha chief, some villages in Pakhowāl; while the men of less note, such as the Sodhis of Nandpur, got jāgirs. Diwān Mohkam Chand was put in charge of the country reserved by Ranjit Singh for himself.

Interference of the British Government : treaty of 1809. British Cantonment established at Ludhiāna.

By this time the British Government had made up its mind that the further aggressions of Ranjit Singh on our side of the Sutlej should be stopped, and the chiefs taken under our protection. Mr. Metcalfe was despatched as agent to conclude treaty with Ranjit Singh, and joined his camp at Kasūr in September 1808. Immediately after this Ranjit Singh crossed the Sutlej on his third invasion and attacked Faridkot and Māler Kotla, notwithstanding the remonstrances of our envoy. After accomplishing his objects the Mahārāja returned to Amritsar, and there Mr. Metcalfe communicated to him the decision at which the Government had arrived—that all conquests made in his first two expeditions might be retained, but that for the future the country between the Sutlej and Jamna was to be considered under our protection and

all territory seized during the last expedition restored. To support this demand a force under Colonel Ochterlony was moved towards the frontier, and on February 18th 1809 the troops reached Ludhiána and took up a position there, which was destined to be permanent. It is matter of history how Ranjít Singh finally yielded to all our demands and entered into the treaty of 25th April 1809, by which he and his dependants were allowed to retain all territory on our side of the Sutlej acquired in the expeditions of 1806 and 1807. The occupation of Ludhiána as a military outpost was intended to be temporary only; but the troops were never withdrawn. We had by the treaty taken under our protection all the Cis-Sutlej chiefs, except those who had been brought into the country by Ranjít Singh; and the management of our concerns with them required the presence of a Political Agent and a force at this point.

General Ochterlony held political charge at Ludhiána from 1809 to 1815, and was succeeded by Captain Murray, after whom came Sir Claude Wade (1823-38). Sir D. Ochterlony and Sir C. Wade had the full powers of agents, but otherwise the post was held by an assistant. It was General Ochterlony who gave the fort its present form, Ranjít Singh setting up that of Phillour to face it after the conclusion of the treaty of 1809. In 1835 Rája Sangat Singh of Jínd died, and with him the direct line of the house failed. The escheat of the whole Jínd territory, or at least of all bestowed on Rája Bhág Singh by Ranjít Singh, was claimed by the latter; but it was finally decided that Sarup Singh, a collateral of the late Rája, should succeed to the ancient possessions of the family, those held by Rája Gajpat Singh, and that all subsequent acquisitions should escheat to the British Government unless they had been granted by the Mahárája after the treaty of 1809 ("Punjab Rájas," p. 34, *et seq.*). By this decision we acquired upwards of 80 villages round Ludhiána and in the neighbourhood of Bassian, with a revenue of about Rs. 1,00,000; and these formed the nucleus of the present district, the administration being carried on for the next ten years by the Assistant Political Agents at Ludhiána, a list of whom will be found at p. 306 of the Punjab Rájas, and also in para. 35 of the Settlement Report by Mr. Davidson.

Ranjít Singh died in 1839, and his death was followed by six years of disorder in the Punjab. It would be out of place here to give a detailed account of the circumstances which led to the outbreak of the first Sikh war; but a short notice of our position in the Cis-Sutlej is necessary, as the neighbourhood of Ludhiána was the scene of part of the struggle between us and the Khálsa army, and our hold on the station was of the first importance throughout. Up to 1838 Ludhiána was our only outpost on the Lahore frontier; but in that year a large force was assembled at Ferozepore for the invasion of Afghánistán, and the latter place somewhat threw Ludhiána into the shade, being within easier reach of the capital of the Punjab. Ferozepore and the territory round it had lapsed to us on the death of Ráni Lachman Kour in 1835, in much the same manner as the Ludhiána territory had. It was about the year 1838 that Sir George Clerk, the Governor-General's Agent at Umballa, built the large circuit house still standing at Bassian, a point from

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leading to the first
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Circumstances
leading to the first
Sikh war (1835-45)

The Sutlej
Campaign.

which communications could readily be maintained with both places and control exercised over the Phulkián chiefs. On the withdrawal of the army from Afghánistán in 1842 our position in the Cis-Sutlej territory west of Umballa was this. We had two patches of territory on the Sutlej in the neighbourhood of the garrisons of Ludhiána and Ferozepore, which were completely isolated, and surrounded by the possessions of the Lahore Darbár and its feudatories. Map No. IV accompanying the Revised Settlement Report shows the division of the country at the time between the various States and petty chiefs.

In December 1845 the Khálsa army crossed the Sutlej, and the first Sikh war commenced. The chief interest centres round Ferozepore, which was the main point of the Sikh attack; and there the bulk of our force collected, the troops for the most part marching direct *via* Bassian, while Ludhiána was left with a mere garrison. But the position was not one likely to be neglected, as it covered the communications in the rear of our army; and its importance was probably appreciated by the Sikhs, for in January 1846 their general, Ranjodh Singh Majithia, created a diversion by appearing with an army at Phillour and crossing the Sutlej. His force consisted of 10,000 infantry, with 60 guns and some cavalry. His presence on this side of the Sutlej was fraught with the greatest danger to us, as in a struggle with the Lahore Sikhs we could at most expect little better than neutrality from their co-religionists on this side. The position of such chiefs as had territories on both sides of the Sutlej scarcely left them a choice. Nihál Singh, Ahluwália, tried to play a double game. His troops fought against us about Ferozepore, and a considerable body of them joined Ranjodh Singh near Ludhiána while their Master was professing friendship to us, and saying that he had no power over them. The Ládwa chief, whose head-quarters were at Badowál, and who had everything to lose by such conduct, openly went over to Ranjodh Singh while he was still on the Jullundur side of the river. Such was the weakness of the Ludhiána garrison that he was able before crossing to burn a portion of the cantonments with impunity; neither was any attempt made to bar the passage of Ranjodh Singh's army, which had our communications at its mercy. Such a state of affairs was not likely to last long; and Sir Harry Smith was soon despatched from Ferozepore with a force of about 4,000 men to keep open the road between that place and Ludhiána. On January 20th he reached Jagraon, while Ranjodh Singh occupied Badowál between the British force and its destination. Sir Harry Smith's object was to effect a junction with the Ludhiána garrison without coming into collision with the enemy, and he accordingly attempted to pass to the south of their position. But his flank was attacked by the Sikhs with great violence near Badowál, and our troops, wearied with a long march, were for some time in considerable danger. They were extricated from the position and brought into Ludhiána with a loss of 200 men and nearly the whole of the baggage. The result of this action of January 21st was most damaging to our prestige; but the effects had scarcely time to be felt before they were effaced by the complete success of our arms. On the 22nd January Ranjodh Singh moved

Action at Badowál.

to the village of Bhundri on the Sutlej, where he was joined by some regular troops of the Lahore army, his strength being then raised to 15,000; and here he remained quietly for a week, having, as he hoped, a clear line of retreat, and commanding the road along the Sutlej between Ferozepore and Ludhiāna. General Smith was also reinforced, and on the 27th January marched towards the position of the Sikhs. He found them posted in the low lands close to the Sutlej, with their right resting on the village of Bhundri, which is on the high bank, and their left on Aliwāl, close to the river. East of Bhundri the high bank or ridge, which separates the valley of the Sutlej from the uplands, sweeps inwards in a semi-circle to the distance of five or six miles, crowned with villages at intervals, and leaving a wide open plain between it and the river. It was across this plain that the British army on the morning of January 28th moved to the attack, the capture of the villages of Aliwāl, the key of the position being their first object. The Sikh guns were as usual well served; but Aliwāl was in the hands of inferior troops and the resistance was spiritless. By the capture of Aliwāl the Sikh left was turned; but round the village of Bhundri their right, composed of trained and enthusiastic Khālsa troops (Avitabile's Regiments) made a most determined stand, and the whole battle is still called by natives "the fight of Bhundri." The most gallant part of the action was the charge by the 16th Lancers of the unbroken Sikh infantry, who received them in squares. Three times the Sikhs were ridden over, but they reformed at once on each occasion; and it was not till the whole strength of our army was brought to bear on them that they were at length compelled to turn their backs. The Sikh troops were either driven across the river, in which many of them were drowned, or dispersed themselves over the uplands. Our loss was considerable, amounting to 400 men killed and wounded; and a tall monument, erected in the centre of the plain to the memory of those who fell, marks the scene of the action.

The battle of Aliwāl cleared the upper Sutlej of our enemies, rendered our communications sure, and enabled Sir Harry Smith to join the army of the lower Sutlej with his victorious force. On the 11th of February the crowning victory of Sabraon was won, and the first Sikh war ended. The abrogation of the treaty of 1809, and the annexation of all Lahore territory on this side of the river, were the natural results of our success; and it remained to settle accounts with the Cis Sutlej chiefs who had either been in active opposition to us, or had withheld their assistance when it was most needed. The Lādwa chief forfeited all his possessions, and the Ahluwālia chief all on this side, while the Nābha Rāja lost one-quarter of his territory (for a detailed account of these transactions see "Punjab Rājas"). Those of the minor chiefs who had not openly joined the enemy were maintained in their possessions; but these were included in our territory as jāgirs, independent power being given only to the Phulkian Rājas and the Māler Kotla Nawābs. Where the chief had gone against us, his villages were absolutely annexed. From these acquisitions was formed in 1847 the present Ludhiāna district, after a trial of Badni as head-quarters for a short period. Trifling changes have since occurred; and the

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Battle of Aliwāl.

Close of the Campaign and annexation of the Cis-Sutlej country.

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Campaign and
annexation of the
Cis-Sutlej country.

map above referred to as attached to the Settlement Report shows whence the various parts of the district, as it is now constituted, were acquired. A full account of the treatment of the petty chiefs whose territories were not annexed will be found at pages 186-200 of the "Punjab Rájas." The police powers and the right to levy transit duties were taken away from them at once; and, when the whole Punjab became ours in 1849 they lost all civil, criminal and fiscal jurisdiction, a cash demand being at the same time substituted for their right to an undefined share of the produce. Thereafter they were "considered as no more than ordinary subjects of the British Government, in possession of certain exceptional privileges." A cash commutation was also fixed in place of the levies which they were bound to furnish for the service of the paramount power.

History from 1846
to 1857.

To the work of conquest succeeded that of settling the administration of our new possessions. In passing we may mention the calamity which occurred to the 50th British Regiment shortly after its return to cantonments. It had suffered severely in the battles about Ferozepore and by sickness during the campaign, and was enjoying a well-earned rest, when in a dust storm one of the principal barrack buildings fell, crushing to death 210 men, women and children. When in 1849 the Punjab was annexed, Ludhiána ceased to be of any importance as a military station. The cantonments were finally abandoned in 1854, and since that time the only troops permanently posted have been a portion of some native regiment as a garrison for the fort. During the ten years succeeding the Sutlej campaign Ludhiána is to be pronounced happy as having no annals. The work of administration progressed steadily, and the resources of the country developed rapidly under the security given by our rule. A summary assessment in 1846-47 of the new acquisitions was followed in 1849-53 by a Regular Settlement of the whole district. Cultivation increased, and trade began to flourish in consequence of the removal of the transit duties, the improvement of communications, and the security to life and property which resulted from our rule.

The Mutiny (1857).

Although Ludhiána had ceased to be a cantonment at the time of the outbreak of the Mutiny, it lay on the route to Delhi of the Punjab mutineers, and also of the succours sent by Sir J. Lawrence; and there were busy and anxious times for the Deputy Commissioner, Mr. G. H. Ricketts, and his assistant, Mr. Thoraton.

The following account of the events of 1857 is taken from the Punjab Mutiny Report. Mr. Ricketts, the Deputy Commissioner of this district, had a most difficult part to play, and ably did he acquit himself. The town of Ludhiána commands the high road from Delhi to the Punjab. It stands on the bank of the Sutlej at the head of the bridge-of-boats connecting Hindustán with the Punjab proper. It is filled with a dissolute, lawless, mixed population of Kábul pensioners, Kashmiri shawl-workers, Gújars, Baurias and other predatory races. There is a fort without Europeans to guard it, a city without regular troops to restrain it, a district traversed by roads in every direction, joining the seven commercial towns which form the emporia of its trade, and situated on a

river which for months in the year is a mere network of fordable creeks which could only be guarded by a cordon of regular troops. Mr. Ricketts had for his jail and treasury-guard a company of enemies in the shape of a detachment of the 3rd Native Infantry, and on the breaking out of the mutiny received another company of the same regiment. As there was no dependence to be placed upon these men, he summoned the feudal chiefs and the independent states to send him troops. The chiefs of Nábha and Máler Kotla sent in their men, to whom the safety of the station was entrusted. Detachments of these troops were likewise charged with the protection of the eight high roads that intersect the district, of the ferries, the fords and the gháts. The undisciplined Nábha troops unfortunately failed Mr. Ricketts in his hour of need. They would not follow the Jullundur mutineers; but this is not to be ascribed to any lukewarmness of their master. He was a staunch ally to us throughout. Other natives who materially aided the Deputy Commissioner were Mith Singh, Basant Singh, the Sultán chaudhrís; and of the Kábul pensioners the following, *viz.*, Hassan Khán, Abdul Rahmán, Saleh Mahomed, Shahpur, and Sháhzáda Sikandar.

On May 15th Mr. Ricketts sent his treasure to Phillour fort. It was placed under the charge of Mr. Thornton, Assistant Commissioner, whose labour in connection with it was greatly increased by the necessity of having to go to and fro a distance of seven miles across the swollen river on sudden and constant calls for money. At the same time Mr. Ricketts concentrated his police from the district at the station, adding by this movement 80 men to the force at his disposal for overawing the city. As a specimen of the vast amount of miscellaneous work entailed upon district officers generally during the mutiny, an extract from Mr. Ricketts' report may be given showing what he was obliged to do in Ludhiána:—

"Supervision began to be exercised over the post office; every post without exception, till October, was opened and sorted by my assistants or myself, and great and endless were the irregularities: extra ammunition was distributed throughout the district police; supplies were accumulated at the different encamping-grounds and halting-places; the prisoners were looked to and re-ironed; materials were collected for the bridge-of-boats, and the repair of its approaches; a staff of artisans and labourers, and an increased guard of picked Sikhs, were posted there. Parties of Jágírdári or contingent horse were posted at all the tahsils and thánas, and along all the roads. Proclamations of reward for the apprehension of deserters were promulgated; arms for the irregulars were escorted to Ferozepore through the deserting sepoys; ladies and children were sent out of the station and across the Sutlej to Phillour, where they had the advantage of a place of refuge in the fort garrisoned by Europeans; carriage for the transport of all kinds of army stores was collected; the bullock train arrangements were taken in hand; and the commissariat for European detachments passing through the executive in both these departments devolved, under existing circumstances, on the district officer, until at a subsequent date the transport service was separately organized: also supervision was instituted over all dealers in salabur

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and lead and vendors of caps; a system of passports for all travellers was instituted. Hindustánis supposed to be tainted were weeded out of all departments. The fort, after it was kindly vacated by the mutineers, was emptied of all its munitions of war, which were sent to Delhi; it was provisioned in case its defence became essential, which was fortunately unnecessary, as its well supplies no drinkable water; and it was placed in some sort of repair. A regiment of Sikhs was raised, in which all furlough men belonging to the district and on leave from their regiments were incorporated. Horses were collected for service at Delhi; 200 men were raised for Hodson's Horse, 50 old Sikh golandázes (or artillerymen) survivors from Sobráon, were enlisted for service before Delhi; 500 or 600 Sikhs and Mazbís were enrolled as pioneers; 250 (I think) dooly-bearers were engaged and sent to Delhi for the transport service; 200 men were raised for the North-Western Provinces Police battalion. The men on furlough from the Ferozepore and Ludhiána Sikh regiments were formed, to the number of 140 (or thereabouts), into one body, were armed and sent down to the Muzaffarnagar district, where they are still watching the Rohilkund rebels. Estimates were formed of the amount of cattle available for provisions for the vast increase of European troops; and, lastly, the manufacturing classes in the town were set to work at sand-bags for Delhi, at tent-cloth (of which 300,000 yards were made for tents for European troops), and on saddles for horse artillery; artizans were furnished for the magazines at Ferozepore and Phillour, and masons and carpenters for the new European barracks in course of construction in the hill stations; and so on, in various ways which have escaped my notes and my memory. The internal resources of the district were brought into play to meet the demands of the times, whilst the spirit of the people was taken advantage of to commit them to the quarrel against the common enemy, and the various subordinate official departments were roused by rewards freely given, and by punishments, sharp and severe, to lend their co-operation."

Mr. Ricketts, Lieutenant Yorke, and Captains Cox (Her Majesty's 3rd) and Campbell nightly patrolled the streets of the city at any time between 10 P.M. and 2 A.M. Captain Nicolls, Assistant Commissioner, was entrusted with the duty of forming a Sikh regiment which the Chief Commissioner ordered to be raised.

But the event which must call into prominent notice the bad qualities of Ludhiána and the excellence of its officers was the transit of the Jullundur mutineers on the 8th June. A short time previous to the arrival of the mutineers, Mr. Ricketts had received information that all the armourers and furbishers of the city were plying a most profitable trade. This could be for no good purpose. He resolved to disarm the city on the first opportunity. One presented itself when Major Coke's corps, the 1st Punjab Infantry, reached Ludhiána on its way to Delhi. At dawn on the 20th June, on the inhabitants issuing from their homes, they found themselves confronted at every street-crossing, at every market-place, by bands of these ferocious warriors, and sent back to their homes. Bodies of police under

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European officers entered each house and took the arms concealed therein. Eleven cartloads of arms were thus discovered and seized. The inhabitants had shown the animus which had prompted them in accumulating these arms by joining the Jullundur mutineers on their passage through a few days previous, by burning the church and the mission, by pillaging the mission-houses, by aiding the mutineers to mount heavy ordnance on the fort which the mutinous 3rd had delivered up, by supplying them with food and water, and by pointing out the residences of Government officers for plunder and destruction. This pillage could not be prevented by the civil authorities. News of the Jullundur mutiny did not reach them till 11 hours after it took place, when the mutineers were already crossing the river, and had joined the 3rd Native Infantry at Phillour. Mr. Ricketts promptly went out to encounter the mutineers, searched for them all day, and came upon them after nightfall. His auxiliaries fled; his sole supporters were a detachment of Captain Rothney's corps, the 4th Sikhs, under Lieutenant Williams, who was severely wounded; he had to work a gun with his own hands until his ammunition ran out, and then was obliged reluctantly to retreat. At Jullundur and Ludhiána, as in very many other places, the rebels had outwitted themselves. In their eager hurry to escape from Jullundur, they took blank cartridges and left the ball cartridges behind. They arrived at Ludhiána, and in the height of their triumph at occupying the fort found, to their dismay, that it contained vast stores of guns and powder, but no shot. They had none with them, not even musket balls. To remain was useless. They evacuated Ludhiána and reached Delhi in safety, owing to the weakness of the pursuit which was made by the military from Jullundur. However Ludhiána was saved. The grand trunk road remained in our power. None suffered eventually from the riot except the rioters themselves and the city which harboured them. Twenty-two of the plunderers were hanged the next day, and the city was fined Rs. 55,294.

Of this measure Mr. Montgomery writes: "The proposal to levy this fine emanated from Mr. Ricketts himself. It met my cordial approval, and has been sanctioned by the Chief Commissioner. I consider it one of the most masterly strokes of policy of the whole Punjab. The principle is well understood by the people, that when any members of a community disgrace themselves by violent encroachments on the rights of others, the whole community to which they belong atones for their guilt by pecuniary compensation to the sufferers, and by a fine to Government for its outraged authority. In this case it produced the most strikingly beneficial effects. It quieted not only Ludhiána, but all the six market towns of the district. It inspired a salutary dread of Government, which was so manifestly inclined to hold its own and care for neither prince, peasant nor mutineer. Compensation was made to all the sufferers to the full extent of their losses, leaving a small balance which will nearly cover the loss to Government property."

After the display of such an animus by the rabble of Ludhiána and its neighbourhood, it was necessary to put it out of their power

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yards of the fort were levelled, and the Gújar population turned out to the low lands beyond the city. The Gújars of the whole district were disarmed, but not the Jats, as their subsequent co-operation with the British Government was reasonably to be expected from the good feeling they had already shown. The Gújars were also deprived of their boats, and inflated skins (for crossing the river) were made contraband amongst them. The low Hindustáni population swarming in the old cantonment was dispersed and sent home.

Particular instances of sedition occurred besides the great ebullition on June 8th. A fanatical Gújar maulvi, after preaching sedition for some time, went off to Delhi. One or two of the Kábul pensioners (descendants of Sháh Shújah) followed his example. The 3rd Native Infantry, before they left, were also known to be firebrands, but nothing could be proved against them. The Hindu chaudhrís were, as a body, timid and lukewarm in our cause. On the other hand, instances of good feeling were also manifested. Rám Singh, one of these Hindu chaudhrís (or headmen), was an honorable exception to his class. He was ever active in laying in supplies, and at a very critical time advanced nearly Rs. 3,000 for the public service. The Jats of the Raikot thána, when informed of the mutinies at Ferozepore and Jullundur, set themselves to watch all the roads and wells with the aim of seizing stragglers. It were an endless task to enumerate all the instances of good and bad feeling among the people of this district. The outline here furnished will show the difficulties that the district officers had to battle with, and the energy with which they met them. The Muhammadan Gújars of the Bét are the only people of the district who appear to have shown any disaffection, but it is in the nature of this tribe to be discontented. The Hindu Jats, who form the mass of the population, could have nothing in common with the mutineers, and were steadfastly loyal to us. Not a single instance of disturbance in any part of the district, save in the town of Ludhiána, is recorded.

The Kúka outbreak.

The only event left to chronicle is the "mad attempt" by the Kúkas in 1872. An account of the rise of this sect will be found in the next chapter. The proceedings of Rám Singh's followers had caused anxiety to Government for many years, and special precautions were from time to time taken to prevent large gatherings of them. Small disturbances occurred at the religious fairs here and there; and in 1870 "butcher" murders were committed in one or two places, the rage of the Kúkas being directed against the killers of kine. On the 13th January 1872 there was a meeting of Kúkas at Bhaini, and a gang of about 150 of these, after working themselves up into a state of religious frenzy, started off under the leadership of two Jats of Sakraundi in Patiála territory. Rám Singh informed the police of their intention to do some mischief, saying that he had no control over them; but it was considered sufficient to see them out of our territory. They were armed with axes, sticks, &c., only, and are said to have declared that the town of Máler Kotla would be the object of their attack. They went to Pael in Patiála territory without causing any disturbance, and re-appeared next day near to Malaudh, the seat of Sardár Badan Singh, on which they made a sudden onset with the idea, probably, of setting some of

money. They are said to have wanted the Sardár to lead them. In this attack two men were killed on each side and a few wounded, and the gang succeeded in securing three horses, one gun and one sword. No one joined them anywhere on their march, and they never numbered more than 150 men at the outside. They next proceeded to Kotla, which is nine miles distant from Malaudh, and on the morning of the 15th made a sudden attack on the palace and treasury of the Nawáb; but were driven off when the Kotla guards had recovered from their surprise, and pursued to Rurr in the Patiála territory, where to the number of 68 they surrendered to the Patiála authorities. At Malaudh and Kotla they had killed 10 men and wounded 17, while their own loss had been 9 killed and 38 wounded. On getting news of the attacks on Malaudh and Kotla, Mr. Cowan, the Deputy Commissioner of Ludhiána, started for the latter place, and telegraphed for troops, which arrived soon after. Mr. Cowan executed by blowing from guns at Kotla 49 of the captured men, and the others were tried by the Commissioner (Mr. Forsyth). Thus ended the Kúka outbreak of 1872. If the Kúkas ever had any plans for a rising they must have been completely upset by these insane proceedings of a small body of fanatics, rushing about the country armed with sticks and axes. The people of the villages through which they passed appear to have been scared by them, and the inhabitants of Rurr, where they were captured, deserted their houses in a body on the approach of the band. Of course Rám Singh and his doctrines were responsible for what happened; and he had become a danger to the State, as similar disturbances might be created at any time by his followers. Rám Singh was at once deported, and has remained a State prisoner ever since.

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The Kúka outbreak.

The district has few monuments of antiquity. Such places of interest as there are in the towns will be referred to in the separate accounts given of the municipalities in Chapter VI. The notice of the Hindu period at the commencement of this chapter contains such information as is available about the mound of Sunet. There are also mounds at several other places; but they generally mark the site of a parent village from which those about have taken their origin. Thus between Gujarwál and Phallewál the mound of Naiebad marks the first settlement of the Garewáls. As monuments of the Mughal empire, we have at a distance of two *kos* along the old Bádsháhi Road *minárs* marking the distances; and a fine serai at every sixth or seventh *kos*. The *minárs* are of masonry, and about 12 feet high. They are in a good state of preservation, but have no inscriptions. They are said to have been built in the reign of Sháh Jahán. The serai at Ludhiána has long since disappeared, that at Doraha is in Patiála territory, while that of Lashkari Khán, about seven miles on this side of Khanna, is a magnificent building in very good preservation. The inscription tells us that it was built by Lashkar Khán in the reign of Aurangzeb. It is now seldom used by travellers since the Railway was opened. The serai at Khanna is now part of the town; but the walls are entire. There was a large "hazira," or tomb, at Tihára of about the same date, but this was washed away by the river in 1868. The Sikhs erected forts at many places in the district, most of which were demolished in 1845. The

Antiquities of the district.

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History of famines
and scarcities.Famine of Sambat
1840.

monument in the field of Aliwál has already been referred to. This has been recently repaired or rebuilt. The cemetery of Ludhiána is crowded with monuments of quaint design, remnants of the days when there was a large body of troops here.

The manner in which the various portions of the district are liable to be affected by drought is fully discussed in Chapter IV, (page 144). The earliest famine of which men talk is that of Sambat 1787 (A.D. 1730). The memory of it is preserved in the saying “satassiake mária hua,” applied to a man who has got food and refuses to feed a starving beggar; but no particulars are forthcoming as to how the people lived, or what was the extent of its ravages. There was drought in A.D. 1759 and again in 1770, but apparently no famine; and the affects were only felt for a few months. The memory of these visitations has been effaced by that which followed. The terrible famine of Sambat 1840 (A.D. 1783), called “chália,” appears to have spared no part of Northern India, and this district suffered with the rest of the country. It began with the failure of the autumn rains of Sambat 1839, there being little or no yield in the kharif and following rabi harvests. Prices rose from Bhádon (Sambat 1839), and by Baisákh (Sambat 1840) wheat was selling at 20 seers *kacheha* (8 seers *pucka*) a rupee. Rain fell in Hár, but not afterwards; and the kharif crops of Sambat 1840 all withered. In Kátak of that year wheat was at 8 seers *kacheha* (3½ seers *pucka*) a rupee; and, if we consider the difference in the value of money then and now, we may realize the extent of calamity from this. The rabi was not sown except at the wells, of which there were not nearly so many as now. In Chet Sambat 1841 there was rain; and in Hár the usual autumn falls began. The kharif and rabi following were very good. The pressure of famine lasted nearly 2½ years altogether, and the mortality must have been tremendous. Grain could not be bought for money; and people are said to have died with bags of rupees under their heads. All natural affection was lost sight of, and parents robbed their children of their food, and looked on to see them die. Many emigrated beyond the Jamna, where there appears to have been something to live on. People are even said to have been driven to cannibalism. The cattle died everywhere; and, when the rain did come, men had to drag the plough through the fields. The green crop was eaten whenever the heads were formed, and many people lost their lives from sickness brought on by improper food. Famine was as usual followed by disease. When the people were able to resume the cultivation of their land, the country gradually recovered its prosperity; but the horrors of the “chália” will long be remembered. It is worthy of remark that not a single village was totally deserted in this famine. Proprietors abandoned their land here and there, and many must have died; but the mass of them adhered to their villages, probably in most cases because there were wells at which the survivors could eke out some sort of existence. The history of no village contains any allusion to its having been deserted at this time; and the few that date their foundation from a later period than the “chália” were settled by the ruler of the time

in the surplus area of some old village contrary to the wishes of the rightful owners.

The next famine was in Sambat 1869 (1812-13 A.D.). The kharif of Sambat 1868 and rabi following were poor, and fodder scarce. Rain fell at first, but stopped; and the kharif of Sambat 1869 and rabi succeeding failed, except at the wells. Grain rose to 18 seers *kachcha* (7 seers *pucka*); and straw was not to be had. There was a tremendous loss of cattle, and oxen ceased to have any value, being given away for nothing, or turned loose in the fields. The autumn rains of Sambat 1870 were good, and prices fell. The loss of human life was not perhaps very great, and was confined to the poorer classes, labourers and artizans, in the towns and villages.

The history of the “nabia” or scarcity of Sambat 1890 (1833 A.D.) is as follows. Grain was selling at two maunds (*pucka*) a rupee when it began. The autumn rains of Sambat 1890 failed; and the two harvests produced almost nothing except at the wells, where carrots and other vegetables were grown. The loss of human life and of cattle appears not to have been considerable; and the price of gram was never higher than 17 seers *pucka*; but this was of course very dear for those times, and would mean 8 or 10 seers a rupee now. In Sambat 1894 there was a scarcity, but not of much severity. The people had not, however, recovered from the “ninety.” Witness the couplet:—

“Saved from the 90, succumbed to 94; there were clouds by day and starry nights.”

Of the next scarcity, that of A.D. 1860-61, we have official information. The account for this district is as follows. The rabi of Sambat 1917 (1860 A.D.) was poor, the winter rains having failed; and the price of wheat rose to 34 seers *pucka* by Baisákh. There was rain in Hár, but not in the following months; and the kharif was sown, but withered. There was a great drain on the grain stores of this district, caused by the scarcity in those to the south; and the price of wheat rose till it reached at one time seven or eight seers a rupee. The rabi was very poor, but did not fail entirely; and the rains of 1918 were plentiful. There was a great scarcity of fodder and a considerable loss of cattle; but none of human life from actual starvation, in the villages at all events. It was a famine in the “Bángar” country (Rohtak, Hissar, &c.), and numbers flocked northwards from those parts. The people say “Kál Bángar thon upje bura,” i.e., “a famine coming from the Bángar is bad.” The stores of grain were sold at an immense profit, which probably more than compensated for the loss of cattle. The scarcity of Sambat 1917 will be found to be the turning point in the fortunes of many agriculturists of the western and *Jangal* villages. Most of them had grain in store; but the unlucky few that had not were compelled to incur a debt of which they have never got rid. Mortgages in Jagraon tahsil can be as often as not traced back to the “17” (“satárah”) or the following “25” (“panji”). There was some acute distress amongst the lower classes in the towns; but the whole famine expenditure appears to have amounted only to about Rs. 6,000; and, although a suspension of 3 per cent. of the revenue was considered necessary, the balance was

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Famine of
Sambat 1869.

Sambat 1890 and
1894.

Sambat 1917.

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Famine of
Sambat 1925.

soon realized. Captain (afterwards Colonel) McNeill writes in 1861 that the money-lenders were complaining that the Jats had paid off all their debts and taken the grain trade completely out of the hands of the regular merchants.

The scarcity of A.D. 1869-70 was, as regards this district, of much the same character as that of 1860-61; but the harvests were better, and the injury done was confined to a not very considerable loss of cattle, and to debt incurred by individuals from this cause or from their having to purchase grain for food. Wheat went as high as eight or ten seers a rupee; but the people affected by this were as usual the artizans and labourers in the towns. There was on both occasions a good deal of immigration from the south of starving people. The whole expenditure on relief works amounted to Rs. 7,000, incurred entirely in the towns. On the other hand the mass of the agricultural population, at all events of the western parts of the district, where the effects of famine ought first to be felt, profited greatly by the high prices as in 1860; and the advantages to them as a whole far outweighed the evils. Nominal suspensions to the amount of Rs. 2,500 were sanctioned; but the balances recovered next year.

1877-78 A. D.

In the reports of 1877-78 Ludhiāna is shown as "unaffected." The harvests were very fair; but prices were run up to famine rates in consequence of the demand from the North-Western Provinces, Madras and Bombay. This was to the entire benefit of the cultivator, and to such as had stores of grain.

General conclusion.

In the Settlement Report the famine history of the district is thus summarised: "Thus we have the history of the last century as follows: a terrible famine with immense loss of life in A.D. 1783; acute distress in 1812, and distress in 1833 and 1837 felt by most people. But for the development of communications which took place after annexation I do not think that prices would have been very high in 1860 and 1868; and it is probable that the gain to the agricultural population was greater than the loss in those years. There is, however, a very considerable portion of both town and village population who will always be affected by a rise of prices, the classes who subsist by labour paid for by a cash wage; and to these must be added the numbers of immigrants who are driven into this district by famine in the country to the south of it."

Development since
annexation.

Some conception of the development of the district since it came into our hands may be gathered from Table No. II, which gives some of the leading statistics for five yearly periods, so far as they are available; while most of the other tables appended to this work give comparative figures for the last few years. In the case of Table No. II, it is probable that the figures are not always strictly comparable, their basis not being the same in all cases from one period to another; but the figures may be accepted as showing in general terms the nature and extent of the advance made.

Formation of
district and changes
of boundary.

The district practically assumed its present dimensions in 1850. The first portion which came under British rule consisted of the estates belonging to Jind which lapsed in 1835, on the death of Rāja Sangat Singh without direct heirs. These estates included Ludhiāna itself and 84 villages, yielding a revenue of Rs. 98,229.

On the termination of the Sutlej campaign the whole of the Lahore and Kapurthala territories on this side of the river were confiscated, together with one-quarter of the possessions of the Nábhá Rájá, and the whole of those of the Ládwa chief. In 1849, on the annexation of the Punjab, the territories of the petty sirdárs and confederacies, who had been under our protection since 1808, but had enjoyed a sort of independence, were incorporated in the Ludhiána district as jágirs.

From the time of the constitution of the district up to 1866 it was divided into four tahsils: Samrála (also called at one time Sarai Lashkari Khán), Ludhiána, Pakhowál and Jagraon; but in 1866 the Pakhowál tahsil was broken up, and a few villages added to Jagraon, while most of them were attached to Ludhiána. There are now three tahsils, of which one has its head-quarters at Ludhiána; and the others at Samrála and Jagraon.

The Ludhiána tahsil has a larger revenue than nearly half of the districts in the province, and from a glance at the map it would appear as if the grouping of the villages was very awkward, those of the *Jangal* lying much nearer to Jagraon than to Ludhiána. But the whole of the Malaudh parganah, which includes the villages about Malaudh and also the detached ones referred to above, is, with the exception of two or three villages assigned to other jágirdars, held in jágir by the Malaudh family.

The tahsils are further subdivided into parganahs, distributed among the four old tahsils. The parganahs are as follows:—

<i>Tahsíl</i>	<i>Parganah.</i>	<i>Tahsíl.</i>	<i>Parganah.</i>
Ludhiána	Umedpur.	Samrála	Utálan.
	Bhartgarh.		Bahlolpur.
	Dákha.		Khanna.
	Sánahwál.	Jagraon	Bhundri.
	Ludhiána.		Jagraon.
Pakhowál	Núrpur.		Sidhwán.
	Akálgarh.		Siwaddi.
	Bassian.		Hattur.
	Pakhowál.		
	Gungrána.		
	Malaudh.		

On the abolition of the Pakhowal tahsil, the parganahs of Pakhowál, Gungrána and Malaudh were added to Ludhiána, and those of Akálgarh and Bassian to Jagraon.

At annexation the country was found to be divided into *iláqas*, or collections of villages each held by a chief; and at the Regular Settlement these were doubled up in some places, and in others preserved as separate parganahs, with a very unequal result. Thus Khanna parganah contains 118 villages, and has a revenue of Rs. 1,79,969; while Umedpur has 12 villages, and Rs. 14,414 revenue. These parganahs have not been retained in the new Settlement.

The following table shows the officers who have held charge of the district since annexation, so far as the information is available.

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Formation of district and changes of boundary.

Chapter II.**History.****District Officers.**

NAME.	From.	To.
Captain H. Lakrins	1846	13th June 1849.
Mr. George Campbell	14th June 1849	Do. 1850.
" Edward Brandreth	1850	About 3 months.
" J. Wedderburn	1850	Do. 2 do.
Major P. Goldney	November 1850	January 1854.
Mr. H. Brereton	1854	.....
Captain Frazer	1854	About 1 month.
Mr. H. Brereton	1854	.....
" Fendall Thompson	December 1854	June 1856.
" Nisbet	1856	.....
" Ricketts	March 1856	September 1857.
" Thomas	1857	For 3 months.
" Ricketts	1857	.....
" C. P. Elliott	1857	.....
" Simpson ... ..	.....	.....
" S. Hogg ... ..	.....	.....
Captain MacNeil	October 1858	7th March, 1862.
" Davies	May 1862	July 1862.
" MacNeil ... ..	.....	.....
Mr. C. P. Elliott	7th March 1863	21st May 1867.
Captain Millar ... ..	.....	1 month.
" Paske	1867	17th October 1867.
Mr. Thomas	October 1867	1 month.
" Tolbort	1867	1 do.
" C. P. Elliott	1867	31st March 1869.
Captain E. P. Gurdon	1st April 1869	17th October 1869.
Col. R. Elliott	18th October 1869	16th July 1870.
" Hawes	16th July 1870	2 months.
Mr. C. W. Cowan	October 1870	January 1872.
Col. P. Maxwell	1872	A few days.
Mr. C. W. Cowan	1872	.....
Major Parsons	1872	2nd March 1872.
Captain C. Beadon	April 1872	28th October 1872.
" G. G. Young	28th October 1872	March 1873.
" R. T. M. Lang	1873	1 month.
Major E. P. Gurdon	April 1873	31st March 1877.
Mr. G. M. Ogilvie	1877	.....
Captain G. E. Macpherson... ..	1877	13th August 1877.
Mr. G. E. Wakefield	13th August 1877	10th February 1881.
" F. D. O. Bullock	10th February 1881	20th August 1881.
" C. P. Bird	20th do. 1881	24th October 1881.
" G. E. Wakefield	24th October 1881	.....

CHAPTER III.

THE PEOPLE.

SECTION A.—STATISTICAL.

Table No. V gives separate statistics for each tahsil and for the whole district, of the distribution of population over towns and villages, over area, and among houses and families; while the number of houses in each town is shown in Table No. XLIII.

The statistics for the district as a whole give the following figures. Further information will be found in Chapter II of the Census Report of 1881 :—

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population.

Percentage of total population who live in villages ...	{	Persons	...	86.58	
		Males	...	86.64	
		Females	...	86.50	
Average rural population per village	...	...	...	628	
Average total population per village and town	...	...	...	720	
Number of villages per 100 square miles	...	...	...	62	
Average distance from village to village, in miles	...	...	...	1.36	
Density of population per square mile of ...	{	Total area	Total population	...	450
			Rural population	...	390
		Cultivated area	Total population	...	553
			Rural population	...	479
		Culturable area	Total population	...	490
			Rural population	...	424
Number of resident families per occupied house	...	Villages	...	1.32	
		Towns	...	1.59	
Number of persons per occupied house	..	Villages	...	5.92	
		Towns	...	6.06	
Number of persons per resident family	...	Villages	...	4.47	
		Towns	...	3.80	

Mr. Walker, who has more accurate statistics of cultivation than were available at the time of the Census, has in the Settlement Report the following interesting discussion of the distribution of population :—

“The number of persons per square mile is 450 on total area and 543 on cultivation (1.1 acres of cultivation a head), these averages being worked out on the area as surveyed in 1879-80 and the Census of 1881. But the bare figures give us no information on the point which is of greatest importance, the pressure of population on the land; and we are driven to consider that constantly recurring problem of the classification, with a view to determine what proportion actually depends on agriculture. I have set down the urban population at 83,052; but in the case of each of the towns there is a large area attached and belonging to residents. Thus the area of Raikot is larger than that of any village in the district, except one; and it would have, if there were no town, a village population of 4,000 to 5,000. So, too, Ludhiāna and Jagraon have a number of separate village areas attached to them, the agricultural population living inside the towns. I calculate that the town population proper does certainly not exceed 60,000. We are then left with a rural population of 558,835; but this does not put us far on our way. Combination of occupations is the rule amongst the non-proprietary population, and the recent Census could scarcely have been expected to

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give us a classification that could be relied on to show how much of this rural population should be set down as depending on agriculture, and how much on trade and manufacture. Indeed, such an arrangement is not possible with a society so constituted as that we have to deal with here. The whole rural population may be said in a sense to be supported by the land, each village being for most purposes a separate community. All the implements of agriculture, the materials and furniture of the houses, with most of the ordinary clothing, are produced in the village; and only a few articles of luxury, such as brass-dishes, wedding clothes, &c., are purchased in the towns. The occupations of the various classes in the village hang together, so that they cannot well be separated. Thus the menial classes (*tarkhán lohár, chamár*) are really the servants of the cultivator, helping him in his work by making and repairing his implements, and receiving as their wages a share of the produce. They do little work for outsiders; and they very often combine with their hereditary occupation that of agriculture. Even the shop-keepers, who are not a numerous class in most villages, and occupy a very inferior position, being mostly of the "*lún tél béchna*" class (sellers of salt and oil), are only assistants to the cultivators, supplying them with salt and such necessities as they cannot grow or make for themselves. We might say that the whole population, after deducting that properly belonging to the towns and subsisting by manufactures and industries quite separate from agriculture, depends on the soil; and I think that any attempt to determine what proportion of it is supported solely by agriculture must be mere conjecture. The density of the rural population calculated in this manner is 490 per square mile of cultivation, or 1·3 acres cultivated per head. It varies greatly, as was to be expected, according to the agriculture of the district. Thus in the rich Samrála Bét, where the soil is very fertile and much of it yields two crops in the year, the incidence is 600; and in the Upper Dháia Circle of the same tahsíl, where 40 per cent. of the cultivation is irrigated, it is 660; while in the sandy Lower Dháia tract, just over the Bét, it is only 467; and in the Jangal Circle of Ludhiána, with a rainfall of 17 inches and no irrigation, it is 318. The following are the details of the three most thickly-populated tracts of the district:—

Assessment Circle.	Persons per square mile cultivated.
Bét Samrála 	600
Upper Dháia Samrála 	660
Pawádh Ludhiána 	630

"These proportions are as high as in most of the highly cultivated tracts of the province, although they are much below those of some parts of Hoshiárpur and Jullundur. There can be no doubt that in places there is to some extent a pressure of population, especially in the tracts named and in the eastern parts of Ludhiána tahsíl Bét an

uplands. This pressure is not universal, but shows itself in the older and larger villages where the process of subdivision of land has been going on longest. It is just in these very tracts where the cultivation is most elaborate, that the people are most tied down to their villages. Very few men of the Samrála tahsil will be found in service. From his birth the agriculturist is bound to the land, which requires his every hour; and the last thing he thinks of is seeking employment of any other sort. There is no emigration to speak of, and the direction in which the excess tries to find an outlet is better cultivation and the spread of irrigation. But for the latter of these capital is required, and this is what the cultivator does not possess.

"As for distribution by houses and families, the custom in the villages is for each family to have a separate house, and it is very seldom that a house contains more than one family. An agriculturist when he marries almost invariably sets up a separate house, and this is the practice amongst most non-agriculturists resident in villages. The town returns show two families to each house, at all events in the city of Ludhiána. This is probably due to various causes, *e.g.*, a whole serai being counted as one house. The poorer classes in cities are also in the habit of living several families together in one house."

Table No. VI shows the principal districts and states with which the district has exchanged population, the number of migrants in each direction, and the distribution of immigrants by tahsils. Further details will be found in Table XI and in Supplementary Tables C to H of the Census Report for 1881, while the whole subject is discussed at length in Part II of Chapter III of the same report. The total gain and loss to the district by migration is shown in the margin. The total number of residents born out of the district is 91,478, of whom 32,781 are males and 58,697 females. The number of people born in the district and living in other parts of the Punjab is 85,595, of whom 30,955 are males and 54,640 females. The figures below show the general distribution of the population by

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Distribution of population.

Migration and birth-place of population.

Proportion per mille of total population.		
	Gain.	Loss.
Persons ...	148	138
Males ...	96	91
Females...	211	196

birth-place :—

BORN IN	PROPORTION PER MILE OF RESIDENT POPULATION.								
	RURAL POPULATION.			URBAN POPULATION.			TOTAL POPULATION.		
	Males.	Females.	Persons	Males.	Females.	Persons.	Males	Females.	Persons.
The district ...	926	801	870	762	709	738	903	790	852
The Province ..	897	993	999	981	941	961	995	996	995
India ...	1,000	1,000	1,000	999	999	999	1,000	1,000	1,000
Asia ...	1,000	1,000	1,000	1,000	999	1,000	1,000	1,000	1,000

The following remarks on the migration to and from Ludhiána are taken from the Census Report :—

"Ludhiána, with its extensive riverain, occupies an intermediate position between the thickly peopled submontane districts in the north and the irrigated plains to the south. From overcrowded Umballa, Jullundur and Hoshiárpur, it receives surplus population,

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south. On the other hand, the rapid extension of canal irrigation in Lahore, Amritsar and Ferozepore has attracted a large emigration to those districts. Much of the emigration in the case of Ferozepore, Umballa and Jullundur, and almost all the emigration to Hoshiarpur, is of the reciprocal type, while in the case of the Native States no less than seven-tenths of the migrants are women. The Kashmir colony in the town of Ludhiána does not appear to have been recruited to any considerable extent during the lifetime of the present generation."

The figures in the statement below show the population of the district as it stood at the three enumerations of 1855, 1868, 1881:—

	Census.	Persons.	Males.	Females.	Density per square mile.
Actuals.	1855 ...	527,722	292,699	235,023	383
	1868 ...	585,547	320,571	264,976	429
	1881 ...	618,835	339,599	279,237	450
Percentages.	1868 on 1855 ...	111.0	109.5	112.7	112
	1881 on 1868 ...	105.7	105.9	105.4	105

It will be seen that the annual increase of population per 10,000 since 1868 has been 44 for males, 40 for females and 44 for persons, at which rate the male population would be doubled in 156.3 years, the female in 171.9 years, and the total population in 156.5 years. Supposing the same rate of increase to hold good for the next ten years, the population for each year would be in hundreds—

Year.	Persons	Males.	Females	Year.	Persons	Males.	Females
1881	618.9	339.6	279.2	1887	635.5	348.8	286.1
1882	621.6	341.1	280.4	1888	638.3	350.3	287.2
1883	624.3	342.6	281.5	1889	641.2	351.9	288.4
1884	627.1	344.2	282.6	1890	644.0	353.4	289.6
1885	629.9	345.7	283.8	1891	646.9	355.0	290.7
1886	632.7	347.2	284.9				

The increase in urban population since 1868 has been slightly greater than that in rural population, the numbers living in 1881 for every 100 living in 1868 being 107 for urban and 106 for total population. The populations of individual towns at the respective enumerations are shown under their several headings in Chapter VI.

Within the district the increase of population since 1868 for the various tahsils is shown below:—

Tahsil	Total Population.		Percentage of Population of 1881 on that of 1868.
	1868	1881	
Ludhiána ...	290,304	307,559	106
Jagraon ...	148,223	158,767	106
Samrala ...	144,172	152,509	106
Total district*	583,699	618,835	106

* These figures do not agree with the published figures of the Census Report of 1868 for the whole district. They are taken from the registers in the District Office and are the best figures obtainable.

The question of increase of population is thus discussed by Mr. Walker :—

"Taking the Census figures as correct, we find that there has been a steady increase, which amounted to 11 per cent. in the first thirteen years and to half that proportion in the next thirteen, the rate of increase having been the same in the towns as in the rural population. No safe conclusions can of course be drawn from the figures alone without consideration of the circumstances of the district at the various periods, and these I will proceed to notice. When we annexed the country after the Sutlej campaign of 1845 we found it very fairly cultivated; for our predecessors, the Sikhs, had done their best to increase their revenues by encouraging agriculture; and all the States and Chiefs were under our own protection or that of Lahore. Petty feuds were uncommon, and there was general peace. But the Sikh revenue system was what we should call oppressive; and the rule of some of the chiefs was a mixture of tyranny and rapacity. Property in land was considered a burden, which often under a bad ruler became too heavy to be borne; and society must have been in an unsettled state owing to the frequent changes of rulers. In the same way there was a certain amount of trade; but it was checked by the transit duties levied at short distances by each independent chief, and by the general lawlessness. With our rule came perfect security to the husbandman and to the trader; and an immediate development of the resources of the country by the protection afforded to life and property and the opening out of communications. The increase in cultivation must have been very great in the few years that followed the Summary Settlement of 1847; but there are no details to show what it was. When the survey for the Regular Settlement was made in the years 1850-52 it was found that there was a proportion of 84 acres cultivated in each 100 acres of arable area; and a great part of what remained was brought under the plough within a short time after. Perhaps the best proof of the development of agriculture is the immense fall in prices between 1850 and 1860. The ruler had before that left the peasant just enough to live on, and had taken most of his dues in kind; while the latter knew that the more he cultivated the more he would have to pay, and he had probably as much land under the plough as he could manage. The effects on the population of the development of resources that followed the introduction of our rule would take some time to show themselves, and would naturally appear between the years 1855 and 1868. There was not room for immigration on a large scale, the whole land being owned by the villages; and there was no tendency for settlers to come from any neighbouring district, for the whole country was in much the same condition. The increase of population was all inside the district. The margin of extension has long ago been filled up, the proportion of culturable to cultivated being now one in ten; and the prudential check on population has to some extent come into effect. There has been everywhere a sub-division of holdings, and in most parts of the district the scarcity of land has made itself felt. At all events amongst the Jats and Rājputs every man does not now marry as a matter of course, really I believe on account of the immediate

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Increase and decrease of population.

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expense; and in most families will be found one or two men who have remained single. It is undoubtedly the case that a state of things equivalent to polyandry prevails amongst the Jats, though it is not recognised as an institution: and the result is a distinct check on population. The Sirhind Canal has just been opened, and the productive power of a large part of the district will thereby be increased. The portions effected by it are those in which the population is now least dense; and it will be necessary for the present cultivators to call in others to their aid. But the whole of the land here also belongs to villages, and is mostly cultivated: and it is hard to say what the process of immigration will be, and whence the settlers will come. I doubt if the result will be to relieve the more thickly populated parts of this district of their surplus population. Except for this opening I should be inclined to say that the population of the district had arrived at the stationary stage, and that the rate of increase in the future would be at all events much smaller than in the past."

Births and deaths.

Table No. XI shows the total number of births and deaths registered in the district for the five years from 1877 to 1881, and the births for 1880 and 1881, the only two years during which births have been recorded in rural districts. The distribution of the total deaths and of the deaths from fever for these five years over the twelve months of the year is shown in Tables Nos. XIA and XIB. The annual birth rates per mille, calculated on the population of 1868, were as follows:—

	1880.	1881.
Males ...	19	23
Females ...	16	19
Persons ...	35	41

The figures below show the annual death rates per mille since 1868, calculated on the population of that year—

	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Average.
Males ...	23	26	34	20	28	17	19	25	27	22	44	35	26	30	27
Females ...	22	27	33	19	29	15	18	27	29	23	46	32	27	31	27
Persons ...	23	26	33	19	28	16	19	26	28	22	45	34	26	30	27

The registration is still imperfect, though it is yearly improving; but the figures always fall short of the facts, and the fluctuations probably correspond, allowing for a regular increase due to improved registration, fairly closely with the actual fluctuations in the births and deaths. The historical retrospect which forms the first part of Chapter III of the Census Report of 1881, and especially the annual chronicle from 1849 to 1881, which will be found at page 56 of that report, throw some light on the fluctuations. Such further details as to birth and death rates in individual towns as are available will be found in Table No. XLIV, and under the headings of the several towns in Chapter VI.

Age, sex and civil
condition.

The figures for age, sex and civil condition are given in great detail in Tables IV to VII of the Census Report of 1881, while the numbers of the sexes for each religion will be found in Table

No. VII appended to the present work. The age statistics must be taken subject to limitations, which will be found fully discussed in Chapter VII of the Census Report. Their value rapidly diminishes as the numbers dealt with become smaller; and it is unnecessary here to give actual figures, or any statistics for tahsils. The following figures show the distribution by age of every 10,000 of the population according to the Census figures :—

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Age, sex and civil condition.

	0—1	1—2	2—3	3—4	4—5	0—5	5—10	10—15	15—20
Persons ...	355	181	196	231	260	1,223	1,290	1,148	969
Males ...	338	176	189	228	256	1,187	1,330	1,207	988
Females ...	377	188	204	234	264	1,267	1,241	1,076	931

	20—25	25—30	30—35	35—40	40—45	45—50	50—55	55—60	over 60
Persons ...	957	858	805	460	710	349	530	147	555
Males ...	935	832	768	449	662	361	538	161	574
Females ...	993	899	853	473	768	334	520	131	533

The number of males among every 10,000 of both sexes is shown below. The decrease at each successive enumeration is almost certainly due to greater accuracy of enumeration—

Population.	Villages	Towns.	Total
All religions ... 1855 ...	...	...	5,546
... 1869 ...	...	...	5,475
... 1881 ...	5,492	5,463	5,458
Hindus ... 1881 ...	5,574	5,531	5,580
Sikhs ... 1881 ...	5,540	5,520	5,569
Jains ... 1881 ...	...	5,347	5,446
Musalmans ... 1881 ...	5,330	5,375	5,323

In the Census of 1881 the number of females per 1,000 males in the earlier years of life was found to be as follows :—

Year of life.	All religions.	Hindus.	Sikhs.	Musalmans.
0—1 ...	914	907	919	924
1—2 ...	878	883	854	895
2—3 ...	888	847	736	1,048
3—4 ...	847	...	...	...
4—5 ...	846	...	...	...

The figures for civil condition are given in Table No. X, which shows the actual number of single, married and widowed for each sex in each religion, and also the distribution by civil condition of the total number of each sex in each age-period. The Settlement Officer wrote as follows in his Census report for the district :—

“ Although polygamy is rare, except in the case of very rich men, or of a second wife being taken by *karewa*, the number of single males is nearly double that of single females. The principal reason given for this is that one family will not give a daughter in marriage to another without either money or an exchange, by which they get a daughter in marriage to a son of theirs. The Jats mostly take money, and the price of a girl is now very high, so that many men have to remain single. But the real causes are that males are in excess of females, and that they marry at a later age. Moreover, a state of things which is practically equivalent to polyandry prevails among the Jats, though not openly recognized as an institution.

Chapter III, A.**Statistical.**

Age, sex and civil condition.

"In the uplands the conditions are very favourable to longevity, the climate good and the habits of the people (Hindu-Jats mostly) very temperate. There is a little fever every year in the autumn, but the effects of this generally pass away at once. In the lowlands the climate is bad and fever almost universal for 2 or 3 months every year. These different conditions result in longevity in the uplands, while in the Bét the constitutions of most people are undermined by annual attacks of fever, and they seldom live to a great age. I do not think that religion or the habits of the people do much to produce this result; but, as already observed, nearly the whole population of the Bét is Muhammadan and of the uplands Hindu. Comparing Sikhs and Muhammadans we find—

		Upwards of 60.	TOTAL.
Sikhs ...	...	7,800	123,390
Muhammadans ...	...	8,559	163,897

so that the proportion of persons living more than 60 years is greater amongst the former than amongst the latter.

"These remarks apply to the villages. I have not studied the statistics of the town of Ludhiāna, but I should think that the sanitary conditions and the habits of the people were not favourable to longevity. The situation of the town, just over the Bét, is unhealthy, and the sedentary habits of most of the population are against it. There are no other circumstances that I know of bearing on the subject of longevity. Early child-bearing is not common, most mothers being at least fifteen years of age when their first child is born.

Infanticide and
treatment of female
children.

"Infanticide is unknown,* and female children are treated with great care by most classes (the exception, perhaps, being the Rāj-púts). They are regarded as a valuable commodity by most Jats, Khatrís, Súdés and the lower tribes. Amongst Jats males are married at about 15, and females at about 12 years of age. Amongst Khatrís, Súdés and other Hindu tribes, &c., early marriages are common. Muhammadans generally marry at about the same age as Hindus."

Infirmities.

Table No. XII shows the number of insane, blind, deaf-mutes and lepers in the district in each religion. The proportions per 10,000 of either sex for each of these infirmities are shown in the margin. Tables Nos. XIV to XVII of the Census Report for 1881 give further details of the age and religion of the infirm.

Infirmary.	Males.	Females.
Insane ...	5	3
Blind ...	71	73
Deaf and dumb ...	13	8
Lepers ...	4	1

European and
Eurasian
population.

The figures given below show the composition of the Christian population, and the respective numbers who returned their birth-place and their language as European. They are taken from Tables IIIA, IX, and XI of the Census Report for 1881:—

* NOTE.—Inquiry shows that it almost certainly did exist, as late as 1874, in Raipur and other Jat villages. The Garewáls of Raipur and two or three other villages have always considered themselves of a superior class. C. P., page 93.

DETAILS.		Males.	Females.	Persons.
Races of Christian population.	Europeans and Americans ...	53	59	111
	Eurasians ...	16	16	32
	Native Christians ...	91	88	179
	Total Christians ...	159	163	322
Language.	English ...	63	65	128
	Other European languages ...	...	...	...
	Total European languages ...	63	65	128
Birth-place.	British Isles ...	13	15	28
	Other European countries ...	...	...	...
	Total European countries ...	13	15	28

Chapter III, B.

Social Life.

European and Eurasian population.

But the figures for the races of Christians, which are discussed in Part VII of Chapter IV of the Census Report, are very untrustworthy ; and it is certain that many who were really Eurasians returned themselves as Europeans. The figures for European birth-place are also incomplete, as many Europeans made entries, probably names of villages and the like, which, though they were almost certainly English, could not be identified, and were therefore classed as "doubtful and unspecified." The number of troops stationed in the district is given at page 174, and the distribution of European and Eurasian Christians by tahsils is shown in Table No. VII.

SECTION B.—SOCIAL LIFE.

The villages of the district are built of sun-dried bricks ; but in most will be found one or two houses of masonry. In the ordinary Jat village of the eastern parts the houses are huddled together and open into narrow bye-lanes, which lead into the main thoroughfares. These lanes are seldom more than four or five feet wide. The only entrance to the village is by one or more gates, the number depending on the size of the village ; and the people all live inside except the *Chamárs* or other outcaste classes, who are not admitted, and have their houses at a little distance apart or round the site, facing outwards.

Arrangement of the villages.

The gates are the property either of the whole village or of a subdivision of it (*Patti* or *Thula*), each subdivision having in this case its own. The form is the same in all cases. On each side of the roadway to a distance of 20 or 30 feet a mud platform, 4 or 5 feet in height, is raised ; and on these are built verandahs closed on three sides, but open with pillars towards the road. The whole is roofed in (the verandahs and the roadway between them) and a very comfortable place of shelter formed, in which travellers rest and the people meet of an evening. There is sometimes very great elaboration in these gates, and the different Pattis will vie with each other in architectural display. The style of gate is very often a safe test of the condition of a village, but there are few now that have not towards the outside an arch of masonry work, covered with some sort of ornamental design. In a

Village gates.

Chapter III, B.

Social Life.

Village gates.

great many villages the gate is a most commodious structure of solid masonry, which would cost in many cases for a single Patti as much as Rs. 1,000; but everything, including labour, is generally subscribed, wood for beams, cowdung for burning lime, &c., and the only actual expenditure is on the pay of masons. It is on these gates principally that the architectural genius of the villages shows itself. The Settlement Officer says that he has often found shelter from a storm in a village gate amidst a crowd of natives, villagers and travellers, collected with the same object.

Surroundings of a village.

The interior of a village is, as a rule, fairly clean; it is *outside* that the filth collects. In the eastern parts the cultivated fields come to within a few yards of the houses, leaving very little vacant space. Round the site is the usual road, and outside of this are generally small hedged enclosures (*wárah* or *gohárah*) in which the manure heaps are kept, and the women make the cowdung fuel. These enclosures may lie together in a piece of the *goerah*, or waste land adjoining the site, or they may be between the fields and the road. Sometimes a proprietor is reluctantly compelled to devote a few square yards of one of his fields to this purpose. The village ponds (*toba*) are the excavations from which the clay for building the village have been dug out. They are used for purposes of ablution and for watering the cattle. The drinking wells are generally inside the village. If a few *pápal* trees about the pond be added, we have a complete statement of the surroundings of an ordinary village

Sites of the western villages.

of the uplands in Samrála and eastern Ludhiána. These eastern villages are, as a rule, of average size; but to the west, and especially in the Jagraon tahsíl along the Ferozepore border, and in the Jangal, the villages are much larger, and the houses more spread out, land not being so valuable. Enclosures for cattle and cowdung fuel are thrown out all round, the lanes are much wider, and there is generally plenty of room round the site. The Muhammadan villages of the Bét are generally smaller than those of the Dháia, and the sites are more open and straggling. There are no gates, and entrance is possible at almost any point. The *takia* takes the place of the gate in the Dháia. This is situated outside the village, generally under the shade of a *pilkhun* tree, and consists of a couple of rooms, built on one side of a mud platform three or four feet high. Travelers rest here; and the people of the village meet; and above all the *hukkah* is kept going. The *takia* is in charge of a *faqír* whose principal duty is to guard the *hukkah* and keep it ever alight. A rude mosque is often attached to the *takia*; and, if there is not one, the people pray in the *takia* itself. There is generally plenty of room round a Bét village, the land adjoining the site being often uncultivated; and the *wárah*s or enclosures, are larger than in the Dháia.

Muhammadan villages of the Bét.

Houses: internal arrangement. Hindu Jats.

The ordinary house of the Dháia (belonging to a Hindu Jat) consists of a *deodhi*, or porch, leading out of the lane. On one side of this the cattle are tied and fed at the *khurlis*, or troughs made of mud; and on the other are the beds of the inmates; or, if the house is a good one, and there is plenty of room inside, the carts are kept here. The *deodhi* leads into an open courtyard (*sahn* in Hindústani, here called *bera*) with the same arrangement as the

deodhi, the latter being really used when it rains, and the cattle and men ordinarily preferring the open space. Facing the *deodhi* across the *bera* is the *dālān* or verandah, in front of the rooms (generally two) which are really the house. At one side of the *dālān* is the *chaunka* or *rasohi* the place where the food is cooked; and at the other side is a *koti* or press, which is the store-room of the house. The people live principally in the *dālān*; and the rooms (*kotri*) are used for storing grain and all valuables, brass-dishes, &c., and one for the agricultural implements. This plan can be traced in all the Hindu Jat villages; but, while in some of those in Samrāla tahsil space is so scarce that the *bera* or courtyard is represented by a mere opening a few feet square in the roof, and the whole house is but one room, the *deodhi* and back rooms having been united, in the Jagraon tahsil and Jangal villages the houses are very commodious, the courtyard wide and the *dālān* backed with four or five rooms. In Samrāla the village site cannot be extended, and has to accommodate a much larger number of people than it used to. Many houses will be found to cover a space not more than 10 or 12 feet wide, and about 30 deep; and in this are crowded the family and the cattle. In Jagraon and the Jangal there is nothing to prevent the people spreading out, and they are continually doing so, often themselves keeping to the dwelling-houses inside and making a walled enclosure, with a substantial shed, for the cattle outside of the site. In the crowded villages the tops of the houses are much used; and for getting upon them a strong wooden ladder is kept in the lane outside the door, leaning against the wall. Every house has one of these, and the result is to make the passage through some of the villages very awkward for a horseman. The *charri* and maize stalks kept for fodder are stored on the top of the houses.

The Muhammadans' houses in the Bét have no *deodhi* but merely an open court surrounded by walls four or five feet high, into which the *kotri* or house opens, generally without a *dālān* or verandah. The cooking place, called *chulidāni* is roofed separately. On the bank of the river where there is constant danger of the house being washed away, the people live in huts made completely of thatching (*ghao* or *dib* grass), or four walls of mud have a thatching of this on the top of them.

The furniture of the houses is simple, and consists of a few beds, as many low chairs (called *piri*) as there are women, spinning wheels (*charkha*), cotton gins (*belna*), and a *chakki* or hand-mill for grinding corn. The women sit on the chairs when spinning, &c. The farming implements are all kept in the house. The grain is stored in the *koti*, which is a press made of mud against the wall, or in a *bokhāri* which is half sunk in the wall. These presses have an opening with a wooden door in the upper part, and things are put in or lifted out of them. The *bharola* is a large cylinder of mud, used for storing grain only, with an opening at the bottom, through which the grain is allowed to run when required. These appliances are made by the women. In many houses wooden boxes will also be found, being used for storing clothes principally, also round ones of leather called *patīār*.

Chapter III, B.

Social Life.

Houses : Internal arrangement. Hindu Jats.

Houses of Muhammadans.

Furniture.

Chapter III, B.

Social Life.

Utensils for
cooking and eating.

The cooking and other utensils of the Hindus are almost entirely made of brass, the only ones of earthenware being the water jar (*ghara*) and a cooking pot for vegetables (*tāori*). The common dishes are a *prāt* or basin, in which the flour is kneaded; a *gadwa* or *lotah*, for water; a larger vessel of the same shape called *dolni* in which water or milk is kept for use; *batlohi* a larger vessel, and a *gāgar*, larger still, made either of iron or of brass; a *thāli* or plate, from which the food is eaten; and a *katora* or shallow cup from which water or milk is drunk. These dishes are all of brass. The bread is cooked on the common *tāwa* or griddle of iron. *Kaul* is a small cup of brass; *karchi* a spoon of brass, wood or copper. These with a *chimta* or tongs, for arranging the fire, and a *sandāsi* or instrument for lifting a *lotah* off the fire, make up the usual kitchen utensils of the Jat. Taken altogether they represent a good deal of money. The Muhammadans use an earthenware cooking pot, which they call a *hāndi*. Their other dishes are of earthenware, or of copper tinned amongst the better classes, and have different names from those of the Hindus. They use a *kunāli* or basin for kneading; a *tabākk* or plate for eating out of; a *piāla* (Hindu *katora*) or cup for drinking, made of earthenware. The copper dishes used are a *thāli* or plate, a *katora*, a *gadwā* or *lotah*. The *tāwa* or griddle is of iron, like that of the Hindus.

Clothing : Hindu
Jats, men.

The dress of the people does not differ materially from that of other Punjab plain districts. The Hindu Jat generally wears undyed clothes (one can scarcely call them white), made of home-spun cotton stuff. They consist in the simplest form of three articles, a turban of coarse cloth, a waist cloth (*dhoti*) and a *chādar* or cloth worn over the shoulders, the last two being made of *khadar* or *dhotar* rather thicker stuff. These, with a pair of shoes made by the village *chamār*, constitute the simple and inexpensive wardrobe of nine-tenths of the Jat population for the greater part of the year. A Sikh substitutes drawers (*kach*) for the *dhoti*. On the occasion of a wedding a somewhat better dress is borrowed from a neighbour, who has been extravagant enough to purchase it, and some colour is shown in the *pagri* the white cloth being tied over one coloured yellow (*basanti*) or some shade of red (*kassumbhi*, *gulābi*, &c.) or green, or both are coloured. The people coming from the Jangal with carts affect these coloured *pagris*, and the mixtures are often tasteful. In the winter the Jat has a blanket of wool, if he can spare Rs. 2 to buy it; otherwise he has a *dohar* or *chautāhi*, a sheet of very thick cotton stuff, double weave. In the latter case his outfit costs about Rs. 3. A well-to-do Jat will have better stuffs and wear a short tight-fitting waistcoat (*kurta*) and an *anga* or *angarka*, or loose long one over this, and a pair of *paijāmāhs* of country or of English cloth, his turban also being made up of two pieces (a *sāfa* on the top of a *pagri*) of superior cloth, often coloured. If he is a dandy or wants to appear better than his fellows, he will wear a black or coloured coat, made of thick or thin English stuff (broadcloth or alpaca) according to the season; but this is a recent fashion, and the garment is called a "coat." Chogas are also worn.

The Jat women wear *paijámahs* (called *suthan*) made of *susi*, coloured cotton stuff, and a *chadar* worn over the head and shoulders, either coloured (young women) or uncoloured, made of *gára* or *dhotar*, thick or thin cloth according to the season. This upper garment when coloured may be of dyed cloth, or of *phulkári*, i.e., worked with silk flowers, or of *silári*, another form of silk work; most women also wear a *kurta* or waistcoat like that of the men. When going to another village, they wear a *ghagra* or petticoat above the trousers, and a *choli* or bodice of coloured cloth.

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Social Life.

Jat women's dress.

Of the Muhammadans the Gujar and Aráin men wear a waist cloth (called *tahmat*) of uncoloured or more commonly of coloured cloth, or a *lungi* (a check or tartan). The *pagrí* is generally white. A *lungi* is also worn over the shoulders, generally blue and white, or red and white. In the cold weather they wear a *khéer* or *chautáhi* of the same sort as the Jats. The women do not wear trousers, but a petticoat, generally of blue cloth, a *kurta* and a shawl, also of blue cloth. The Muhammadan Rájputs dress in much the same way as the Jats, seldom displaying colours. Their women wear *paijámahs*, a *kurta* and a sheet (*chadar*) of white cloth. A well-to-do Muhammadan Rájput dresses in almost exactly the same way as a Hindu Jat of the same class.

Muhammadan dress.

Jewelry is called *tagáda* throughout the district, the word *zewan* not being known. Amongst Muhammadans men never wear jewelry; and amongst the Jats only three pieces—necklaces made of gold and coral beads strung together (*máhlá*), bracelets of gold or of silver (*kangan*), and rings of silver or gold with roughly set stones (*mundi*). The use of these is confined to such as are better off than the ordinary run; but a Jat will always borrow a pair of bracelets if he can on the occasion of a marriage. Boys up to 9 or 10 wear some ornament round the neck. Jat women have generally a greater display of jewelry than Muhammadans, because they are fonder of show, and also because their husbands are better off and can afford to give them more. A Jat woman in a well-to-do village will turn out for a wedding covered with ornaments of silver, and here and there a piece of gold. The ornaments commonly worn are the same for all classes, except that Muhammadan women will not wear any on their heads. The following is a list of those in general use:—

Jewelry.

Where worn.	Name.	Description.	Price.
Head. Chauk Phul Bandián Tavetrián	..	A silver boss worn on the top of the head ...	Rs. 9 to 15
	...	A smaller boss of silver, worn one on each side of the head over the ears ...	1 to 2
	...	A fringe of gold worn across the brow ...	30 to 60
	...	Amulets of gold worn hanging over the brow (six)	6 or 7

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Jewelry.

Where worn.	Name.	Description.	Price.
EAR.	Dandiān ... Bāhān with ... Pipalvatrī ... Dhedu with ... chumke or ... kānpūl ... Bāla khungri ... wāla ...	Earrings and pendants worn in the ears, made of silver.	Rs. 5 7 to 9 12 to 15 2 to 3
	Nath with ... chutki. ...	Silver nose ring with gold pendant, worn in the side of the nose ...	20 to 40
NOSE.	Machli ...	Gold ring for the middle of the nose ...	10 to 15
	Laung ...	A gold stud let into the side of the nose ...	1 to 3
NECK.	Tandīra or has	Necklet of silver ...	15 to 26
	Māhla ...	Necklace of silver beads ...	7 to 9
	Hamēl ...	Ditto of rupees joined together ...	15
	Chaukiān ..	Ditto of square-pieces of silver ...	10
HAND AND ARMS.	Gokru ...	Silver bracelet ...	20 to 30
	Kangan ..	Ditto ...	10 to 15
	Churiān ...	Ditto ...	20 to 60
	Ponchi ...	Ditto made of strung beads of silver ...	80 to 100
	Bāzuband ...	Armlet ...	10 to 15
FEET.	Bānka, Tore...	Silver anklets ...	15 to 20
FINGER.	Angushtri, ... chhalli, mundri	Finger rings of silver ...	1 to 2

The workmanship of this jewelry is of the roughest descriptions.

Food and Meals.

In the cold weather the food of the common people consists of cakes (*chappātti*) made of joār (millet) or of maize, a mess of *dāl*, or pottage of *moth* or *māsh* (pulse), with some green *sarson* or gram cooked for vegetables (*sāg*). With this is drunk *lassi* or butter milk. In the hot weather bread made of wheat or wheat and gram mixed (*bérra*) is eaten instead of maize or millet, with *dāl* or pottage of gram. A man working in the fields will eat one small meal, generally the leavings of the previous day, with some *lassi* in the morning after he has been working a few hours, and a heavy meal at noon. This food is brought to the field by the women or children. If he is tired and hungry in the afternoon, as he generally becomes in the long days of the hot weather, another small meal is taken about 4 or 5, and the day's labour is crowned with a heavy meal by way of supper in his house after dark. An able-bodied man working in the fields all day can eat upwards of a seer of grain made into cakes (if he has nothing else to eat with it), the allowance for each woman and child being half seer or less. Vegetables of all sorts, pumpkins, carrots, and radishes, &c., are eaten when in season, and the amount of grain consumed is then less. The Bét people grow and eat *kaddus*, *kakrís* and

radishes, while in the Dháia carrots, radishes and green *sarson* are the usual form of vegetable. The Dháia people are very fond of a mess of Indian corn meal (*álan*) and carrots or *sarson* mixed, the grain being only about one-third of the whole. On the occasion of a marriage or other ceremony superior food is consumed, and a great deal of sugar in some form or other (*gur*, *shakar*, *khand*, &c.)

The following note regarding the food of the people was furnished by the district authorities for the Famine Report of 1879 :—

“Wheat, gram, barley, jowár, Indian corn, form the staple food of the people of this district. They are produced in the seasons rabi or spring, and autumn or kharif, as follows :—

“*Rabi or spring*.—Wheat, gram and barley are sown in October and November and harvested in April and May, and rain is essential from August to September.

“*Kharif or autumn*.—Jowár, Indian corn, sown in July and August and harvested in November; rain essential in July and August.

“Good rain in July and August is advantageous for the operations of both seasons. Excessive rain in August is bad for the kharif and in April for the rabi.

“The average consumption of grains per annum by a family of five persons is 45 maunds for agriculturists, and 33 maunds 30 seers for residents of towns. Agriculturists eat very little wheat, but live on gram, barley, maize, jowár. In June wheat, barley and gram is consumed, and in November jowár, maize.”

The daily life of the ordinary cultivator is perfectly monotonous, though perhaps not more so than that of any farm labourer at home, rest succeeding toil for most days of the year. A marriage or a fair gives an occasional diversion. The people of the western parts have much more variety and less toil. The youth of the Jagraon and Jangal villages have several games, the principal of which are *sonchi* and *kabadi*. In the first of these, which is played throughout the Punjab, one man runs backward, and two follow and try to catch him, he striking them off with his open hands. *Kabadi* is described in Forbes' Dictionary, and is a sort of prisoner's base. Wrestling is not common. More intellectual amusement is sometimes found in listening to songs sung by one of the people, or by itinerant singers (*mirásís* or *dhádís*), who recite the tales of “Hír Ránjha,” “Sassi Punu,” or such others to the accompaniment of a fiddle (*sarangi*) or a tambourine (*dhad*, *dhouru*). But it is only in the rainy season that the ordinary cultivator has time to listen to these, for he is generally much too tired by the evening to think of anything of the sort. Occasionally a body of Nats or Bázígars (strolling acrobats) visit a village, and the people will collect to see the exhibition. But it cannot be said of the agriculturist of the district, Hindu or Muhammadan, that he is fond of any sort of amusement, for his hours of idleness are few, and time is never heavy on his hands.

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Social Life.
Food and Meals.Daily life and work,
Amusements.

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The divisions of the day are as follows :—

Social Life. Divisions of the day.	" Amratvéla "	...	...	...	...	Sunrise.
	" Cháhvéla, " " Iassivéla "	...	...	...	...	Morning.
	" Rotivéla "	...	...	...	...	10 to 12 o'clock.
	" Dopahr "	...	...	...	...	Noon.
	" Dindhala " }	...	...	...	...	Afternoon.
	" Tijápahr " }					
	" Laudevéla " }					
	" Athan " }	...	...	...	...	Evening.
	" Takála " }					
	" Dhandulkán "					
	" Bât "	...	...	...	...	Dusk.
		...	...	...	...	Night.

An account of the months will be found in the chapter on agriculture.

Customs connected
with birth.

The ceremonies observed on the birth of a child by the Hindu portion of the agricultural population are as follows : When the mid-wife is called in, she ties a branch of the siris tree, and an iron ring over the door to notify the birth, and also to keep away evil spirits. If a son is born, the father goes at once and informs the *páda* or priest, and inquires whether the time is auspicious or not. If it is not, the father must make offerings to the Brahmins. In cases of the worst combination of stars, called *gand mál*, the child in former times was thrown out to perish, as it was believed that something would happen to the parents if they kept it. The mother is kept close in the house for 13 days after the birth, when the *páda* is called and gives a name to the child, on which occasion he receives Re. 1, and the *parohit* and others something. Brahmins, faqirs and the neighbours are also fed, and sweetmeats distributed, considerable expense being incurred. This is in token of the purification, that the *sutak* or impurity is removed from the house. For a further period up to 40 days the mother does not mix with the rest of the people, only with her relations. None of these ceremonials are observed by the Jats in the case of a girl, except that *sutak* is kept. A Hindu child has no further ceremony by way of baptism, &c., to go through. A Sikh generally takes the *pahul* when he has arrived at years of discretion. The whole of these ceremonies are not strictly observed by the agricultural portion of the community. The name is given to a son in the case of a Sikh by opening the " Granth Sáhíb " and taking the first letter of the page. Other Hindu Jats do not, as a rule, ask the Brahmin *páda* for a name, but give one themselves or ask the *bharáí*. The period of 40 days' seclusion (called *chilla*) is not kept unless for some special reason. Amongst the Muham-madans when a son is born the *Qázi* or *Mulláh* (priest) comes on the first to the third day and recites the *báng* or creed in the child's ear, and it receives a name from the priest or from some respectable relative. The mother is impure for 9 days to the members of the household, and for 40 days to the rest of the world. The termination of this period of 40 days is celebrated by a feast (*aqíqa*). Circum-cision (*khatna*) is performed by the *Nái* when the *Mulláh* indicates the proper time, but no age is fixed. The boy is generally 4 or 5, but may be 10 or 15 ; and if he has grown up he is generally drugged with *bhang* to deaden the pain of the operation. The *Nái* is paid, and a small feast given to the relations, who contribute something by way of *tambol*. In the case of a girl, the days of impurity are

observed, but the name is given by any one. The Rájpúts generally spends more than the Gújars and Aráíns on the *aqíqá* and circumcision.

The next ceremony in the life of the child is the betrothal. There are now amongst the Hindu Jats two forms of betrothal, where money is taken by the girl's people, and where it is not (*pun*). The latter is the only pure form. The girl's parents generally make inquiries beforehand and fix on some family with whom they should like an alliance, and in which there is a boy suitable, the only restriction being that the family does not belong to four *gots*, with which the parents are already connected. The Náí or Brahmin of the family (*lági*) is sent to the house selected and makes the proposal. If it is accepted, he returns in a few days with money and sugar which he has received from the other family. The father of the boy calls the neighbours, and the *lági* is seated on a high place with the others all round him by way of doing him honour. The *parohit* or *páda* of the family makes the boy say some prayers, and then the *lági* puts a mark on the brow of the boy (*tilak*), and gives him the money and sugar into his lap. This completes the betrothal. It is said that before annexation, taking a consideration for girls was unknown, because the rulers would not permit it; and it is still forbidden in the Nábha State. But now the custom is almost universal, although the transaction is still kept secret, and is never admitted; and only a few of the better families abstain from it. Indeed a Jat considers the birth of a daughter a piece of luck, for the ordinary price has in recent years run up very high. No wonder that marriage is now considered a luxury, and one wife enough for a whole family. It is almost certain that polyandry is common in practice, and the manner in which the brother claims *karewa* on the decease of the nominal husband supports this. The girl is considered as purchased by the family, who can seldom afford to pay so large a sum as her price twice over. In the case of a betrothal, for consideration the parents of the child accompany the *lági* and a bargain is struck. Part of the price is paid, and the *lági* performs the usual ceremonies. Betrothals among the common Jats take place now-a-days when the girl is 10, 12 or even older, for the longer she is kept the higher price she will fetch. Boys are kept till 18 or 20, because their parents cannot collect enough money to pay for a girl.

Marriage under the circumstances generally follows soon after betrothal. If the betrothal is *pun*, the girl is married at about 9 years of age: otherwise when the money agreed on has been paid. The *pádas* of both parties are consulted and a date fixed. The bridegroom and a few relations go as a marriage party (*barát*) to the bride's house and the marriage ceremony is performed.

The ceremonies attending marriage are as follows. A place is marked off (called *bedi*) with four upright stakes joined with cross-pieces of wood at the top, and inside of this the pair are seated with the Brahmin who celebrates the marriage; and a small fire is lit and kept up with *ghi*. The Brahmin marks off on the ground with flour what is called a *chauk*, a square divided into compartments, each representing some deity, and worships this in

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Betrothal among
HindusMarriage among
Hindus.Hindu ceremonies
of marriage,

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of marriage.

the name of the bride and bridegroom. When the prayers have been said, the marriage *mantar* or charm is repeated; and the pair walk round the fire and *chauk* (ceremony called *phera*) four times, the women of the spectators singing, and the Brahmin repeating his *mantars*. This completes the ceremony; and the bride and bridegroom return to the home of the latter. The bride spends a few days there, and then goes back to her parents, with whom she resides till she is finally made over to her husband two or three years after (*mukláwa*). There is almost no expense over an ordinary wedding; but where the parents are very well-to-do there is a large marriage party, and all the people are entertained at the bride's house, a good deal of money being spent on dancing girls, fireworks, &c., besides. It is also the custom in good families to give with the daughter a dower of cash, jewelry, &c., and, as it is coming to be considered a sign of social rank to be able to do so instead of taking money for her, it is likely that the custom will spread.

Second or "karewa"
marriages.

All the clans of Jats practise *karewa* or widow-marriage. The proceedings on this occasion are very simple. The neighbours are called, including the Lambardárs, or respectable members of the village community as witnesses of the ceremony. The Brahmin says a few *mantars* making a *chauk* as in a first marriage, and ties the clothes of the parties together. The man then puts a sheet over the woman's head and she becomes his wife. There is no *phera*, or walking round. It is certain that there is an increasing amount of laxity in the matter of these second marriages, and people live together as man and wife without going through any ceremony. Such conduct is punished by a heavy fine under native rule.

Betrothal and
marriage amongst
Muhammadans.

Amongst Muhammadans it is the custom for the parents of the boy to go to the house of the girl selected and make the proposal. If it is accepted, Re. 1 and 11 seers (*kachcha*) of sugar, and some clothes are given to the girl, and also ornaments. The priest (*Mulláh*) is called, and the girl's father declares the betrothal. The boy's father is given in return a *pagri* and *khés*, and is well fed and sent away. The marriage may take place at any time except in the months of Ramzán, Moharram, Shabhán. The *nái* of the girl is sent with some clothes to the boy's house and announces the date. The boy and his friends go on the appointed day to the girl's house in a marriage party, and the ceremony is performed by the *Mulláh*; and the dower is fixed at the time of the ceremony. The *jahéz* or marriage portion given with the girl by her parents varies according to their means, and consists of clothes, jewelry, &c., sometimes cattle. As with the Hindús, the girl spends a day or two in her husband's house, and then returns to her parents till she is finally made over (*mukláwa*) to her husband.

Funeral rites and
ceremonies.

It is not necessary to give in detail the ceremonies and rites attending the death of a Hindu. These are observed by the Jats more or less fully; the body is burned and the *phúl* or *ast*, i.e., the partially consumed bones of the hands, &c., collected and sent to the Ganges in charge of a Brahmin, who receives a small fee in addition to his expenses, and also takes 8 annas or Re. 1 to the *tírath parohit*, or Brahmin on the spot, who in return for this

throws the bones into the Ganges, and notifies this fact to the relative by letter. The other relatives of the deceased go about their work after three days' mourning; but the son or other relation whose duty it is to perform the obsequies is shaved and maintains the *pátak* or period of purification for eleven days (Hindu Jats). After seventeen days the mourning is over, and the chief mourner celebrates this by a feast to the relations and to the Brahmins, the event being called a *hanqámah*. Large sums are sometimes spent on this occasion. Like other Hindús the Jats keep the *kanágal* or *sarád*; and on the day that corresponds with that of the decease of the relation whose obsequies he has to perform, the chief mourner gives food to the Brahmins before he or his family eat any.

Amongst the Muhammadans the ceremonies are simpler. The body is buried with the service enjoined in the Qurán. On the third day and again on the 40th the chief mourner distributes alms (*khairát*); and on the first of these occasions prayers are offered for the deceased.

Table No. VIII shows the numbers who speak each of the principal

Language.	Proportion per 10,000 of population.
Hindustáni ...	76
Nágrí ...	3
Pahárí ...	1
Kashmíri ...	53
Panjábi ...	9,847
Pashtu ...	2
All Indian languages. ...	9,987
Non-Indian languages ...	13

languages, current in the district, separately for each tahsil and for the whole district. More detailed information will be found in Table IX of the Census Report for 1881, while in Chapter V of the same report the several languages are briefly discussed. The figures in the margin give the distribution of every 10,000 of the population by language, omit-

ting small figures.

The language of the district is Panjábi in a very pure form. There are no peculiarities of grammar; but the names of many things are as usual peculiar to the part of the country. The glossary appended to this volume, and the illustrative songs, sayings, &c., which Mr. Walker has published with his Settlement Report, give some idea of the every-day language of the people. As to the character in use, the shop-keepers' books are made out in the usual *Lande*, illegible save to the writer. A few of the very well-to-do Hindu Jats keep accounts in Gurmukhi. The Nágrí character is used by the Brahmins for religious purposes. In the towns the improved *Lande*, known as *Ashrafe*, is used by the trading classes. The Persian character is nowhere used by the people for purposes of business.

Table No. XIII gives statistics of education as ascertained at the

	Education.	Rural Population	Total Population.
MALES.	Under instruction ...	101	151
	Can read and write ...	335	497
FEMALES.	Under instruction ...	41	104
	Can read and write ...	50	94

Census of 1881 for each religion and for the total population of each tahsil. The figures for female education are probably very imperfect indeed. The figures in the margin show the number educated among every

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10,000 of each sex according to the Census returns. Statistics regarding the attendance at Government and aided schools will be found in Table No. XXXVII.

Details.	Boys.	Girls.
Europeans and Eurasians ...	...	...
Native Christians ...	...	...
Hindús ...	1,631	178
Musalmánas ...	735	164
Sikhs ...	929	22
Others ...	1	...
Children of agriculturists ...	1,907	79
„ of non-agriculturists	1,389	285

The distribution of the scholars at these schools by religion and the occupations of their fathers, as it stood in 1883, is shown in the margin.

The American Mission Press at Ludhiána (see page 76) prints both in English and Vernacular, and issues a newspaper in connection with the Mission.

Mr. Walker thus discusses the state of education in the district :—

“The returns of the Census show that of the total population (618,835) 21,920, or 33 in 1,000, either can read and write, or are under instruction; only 552 of this number being females, while one-third belong to the towns. Of the rural population 14,530, or 26 in 1,000, can read and write or are under instruction, and most of these may be taken as belonging to the shop-keeping class, although there are no details to show the proportions in which the various characters are used. Some of the rising generation of agriculturists have received instruction in our schools, and some of the older men who have business transactions keep, as I have said, account books in Gurmukhi; but it may be affirmed that learning is still confined to the official and trading classes. At the same time the district is not backward in comparison with the average of the province. The agricultural population has not as yet come to regard a course of instruction as more than a preparation for Government service, and it is only entered on with this object.

“The number of those at present under instruction is by the Census tables 4,962 in the whole district; but the educational returns show 4,235 attending Government or aided schools; and to this might be added 4,345 in the private village schools (of which I give an account below), making a total of 8,580. The following statement will show the details of the first of these items, and of the institutions where they attend :—

HIGH SCHOOL, GOVERN- MENT.		MISSION SCHOOL AT LUDHIANA (AIDED).		DISTRICT GOVERNMENT SCHOOLS.						HINDU SCHOOL AT LUDHIANA (AIDED).	
				MIDDLE.		PRIMARY.		FEMALE.			
No.	Attendance.	No.	Attendance.	No.	Attendance.	No.	Attendance.	No.	Attendance.	No.	Attendance.
1	400	1	527	10	294	49	2,513	17	388	1	123

Indigenous Schools.

“A return prepared recently shows 396 indigenous schools with an attendance of 4,345. These institutions are in Muhammadan

villages under the charge of a *Mulláh* or priest, who gives instruction in the Qurán to a class of eight or ten pupils seated in the village mosque or *takia*. The school is called a *maqtab*. The boys merely learn by rote from the master two or three chapters; but to this is sometimes added a little writing on a slate, and portions of some easy Urdu book ("Karima," "Khálíkbári," &c.); and it is only in this case perhaps that the institution can rightly be called a school. The *Mulláh*, who is also the village priest, has generally a small piece of land given him, or receives an allowance of grain, and also presents at odd times. *Lande* is taught to boys of the shop-keeping class in the villages by a *páda* or master. The boys learn to write on a slate, there being of course no books, as the character is purely commercial. Fees are paid by the parents—Re. 1 when the boy enters, another rupee when he can write the letters, and so on. Gurmukhi is taught in the *Dharmśálas* by the *Sádh* who is probably in possession of an endowment, and also receives presents from the parents. The instruction here too is by slates, the boy first learning to form the letters and then to write from dictation. An advanced boy will sometimes begin to read the *Granth* or Sikh Scriptures, but the use of books has not yet been introduced. These schools are, it will be seen, of the most elementary character. The following statement will show the number of each sort in the district:—

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Indigenous Schools.

MUHAMMADAN INSTITUTIONS.				HINDU AND SIKH.									
IN WHICH ONLY QURAN IS TAUGHT.		IN WHICH OTHER INSTRUCTION IS GIVEN.		LANDE.		GURMUKHI.		SHÁSTRÍ (NÁGRÍ).		(SANSKRIT.)		PERSIAN.	
Schools.	Boys.	Schools.	Boys.	Schools.	Boys.	Schools.	Boys.	Schools.	Boys.	Schools.	Boys.	Schools.	Boys.
131	1,401	62	807	20	567	141	1,410	36	351	5	173	1	3

"The Muhammadan attendance includes 259 girls. It is likely that many of the pupils in this return would not appear in the Census tables as "under instruction." For example, those learning portions of the Qurán could scarcely be so designated."

The character and disposition of the people is thus described by Mr. Walker:—

"I have already (see section D of this Chapter) considered the character and disposition of the various tribes which compose the rural population of the district; and I hope I have made it plain that the mass of the people are quiet, contented and law-abiding. The exceptions are the Gújars, perhaps the Rájputs, the criminal tribes of Hárnís, &c; and to these I may add the rabble of the towns. The Gújars are from of old turbulent, and a large proportion of them either actually engaged in crime or on the side of the criminals; but there are at present many respectable men of the tribe. The Rájputs do not go beyond grumbling. The Hárnís, Bauriás and other professional criminal classes are not showing many signs of regeneration

Character and disposition of the people.

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Character and
disposition of the
people.

under our rule; and to their account a great deal of the crime of the district must be set down. Even with them the amount of crime is not more than normal; and the district will compare favourably with most in the province. There is a daily increasing love for litigation, which is most strongly developed amongst the Jats. The most petty cases are fought out to the bitter end, and both parties freely use suborned witnesses to support their claims. The ordinarily honest peasant appears quite to change his character when he comes into our Courts; but this is perhaps not to be mentioned as a feature peculiar to this district. The use of spirits and drugs is very uncommon amongst the agriculturists, who are a most frugal people. The Garéwál Jats used to have a reputation for using opium and *post*, but the custom is disappearing with the last generation. The other Jats and the Bét people appear to be free from vices of this sort, except that the latter indulge to excess in smoking tobacco. In the towns the Súd and some of the lower classes from down-country consume a great deal of spirits; but the ordinary Hindu and Muhammadan still considers it a sin to do so."

Tables Nos. XL, XLI, and XLII give statistics of crime; while Table No. XXXV shows the consumption of liquors and narcotic stimulants.

Poverty or wealth
of the people.

It is impossible to form any satisfactory estimate of the wealth

Assessment.		1870-71.	1871-72.
Class I	Number taxed ...	2,182	540
	Amount of tax ...	43,548	4,751
Class II	Number taxed ...	664	293
	Amount of tax ...	16,662	4,014
Class III	Number taxed ...	266	51
	Amount of tax ...	10,346	1,759
Class IV	Number taxed ...	61	5
	Amount of tax ...	3,267	1,279
Class V	Number taxed ...	59	...
	Amount of tax ...	6,018	...
Total ...	Number taxed ...	3,232	880
	Amount of tax ...	79,841	11,802

	1880-81.		1881-82	
	Towns.	Villages.	Towns.	Villages.
No of licenses ...	595	533	595	511
Amount of fees ...	12,555	7,315	12,555	6,770

of the commercial and industrial classes. The figures in the margin show the working of the income tax for the only two years for which details are available; and Table No. XXXIV gives statistics for the license tax for each year since its imposition. The distribution of licenses granted and fees collected in 1880-81 and 1881-82 between towns of over and villages of under 5,000 souls is shown in the margin. But the numbers affected by these taxes are small. It may be said generally that a very large proportion of the artisans in the towns are extremely poor, while their fellows in the villages are scarcely less dependent upon the nature of the harvest than are the agriculturists themselves, their fees often taking the form of a fixed share of the produce; while even where this is not the case, the demand for their products necessarily varies with the prosperity of their customers. Perhaps the leather-workers should be excepted as they derive considerable gains from the hides of the cattle which die in a year of drought. The following extract from Mr. Walker's report sketches the standard of living which prevails among the villagers. The circumstances of the agricultural classes are further discussed below in Section E. (page 89).

"If we are to judge by the standard of other parts of the Province I should say that the state of the agricultural population was one of very considerable comfort. They are a simple people, and have few wants. Their food is good, and they have enough of it ; and they are, according to Indian ideas, well clothed and well housed ; while their fine physique plainly shows that they do not suffer much from deficiency of nourishment, or from exposure to the elements. Amongst the lower menials in the villages (*Chamárs*), and the classes in the towns which subsist by labour (notably the colony of weavers in the City of Ludhiána), there is at times a good deal of privation. The *Chamárs* have fixed allowances of grain which are assured to them ; but the other classes mentioned receive a cash wage, which is very low, and are sufficiently fed only when grain is cheap.

Amongst agriculturists the Muhammadans, as a rule, are improvident, and live a hand-to-mouth existence ; but their possession of the moist lowlands is an insurance against complete failure of the food-supply. The *Gújars* and *Rájpúts* generally have dealings with the money-lender, and pay him in kind ; and this makes it impossible for them to keep stores of grain. Their credit is good, and they can unfortunately raise money whenever they require it on the security of the land, so that they never want for anything. An ordinary house in the Bét is comfortable, but will not be found to contain much of value in the way of jewelry or dishes. The cattle used for agriculture are very inferior ; but the milch kine are good, as there is plenty of grazing ground ; and the principal wealth, at all events of the *Gújars*, consists of their buffalo cows. The *Aráíns* and *Awáns* mostly get on without incurring debt ; and I believe that the number of *Gújars* and *Rájpúts* who do so is daily increasing. There is also a fair proportion of men of all these classes who are able to advance money on the security of land. I have already referred to the *Awáns* as keeping carts that work for hire, and some *Rájpúts* have followed their example. The villages of the Ludhiána Bét derive great profit from the proximity of the City, in which there is a ready market for the sale of all sorts of miscellaneous produce. Although the money-lenders may seize on the grain, the straw is left ; and in a year of drought this fetches a very high price, the people being able to sell it, and depend on the grass along the river and Budha Nála for the food of their cattle. At the present time (September 1883) straw is very dear and there is a constant demand for it on the part of the Jangal people. Many villages have sold Rs. 400 or 500 worth within the last few days.

The Hindu Jat is by nature provident. His house will generally be found to contain valuable property in the way of dishes, jewelry and clothes, besides a sum in hard cash. In the eastern parts the most valuable crops are the cane and maize ; and these must be turned into cash soon after the harvest. But even here there is generally enough grain in store to last for a year. In the western villages (*Jagraon* and *Pakhowál*) the condition of the Jats is more than one of mere comfort. The houses are superior, there is a great display of jewelry and brass dishes, and the cattle are of a very high class. Almost every house contains a supply of

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Social Life.

General state of comfort.

Agricultural people of Bét.

Hindu Jats.

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 —
 Religious Life.
 Hindu Jats.

hard cash ; and the *Rabi* grain of two years (the *Kharif* does not keep well, and is not stored) is generally kept till the third harvest is secure. A common sign of wealth in a Jat is some masonry work about his house ; either an archway, or the whole porch, or even the whole house, is built of burnt bricks. Masonry work is more common in the west than in the eastern parts ; but most villages have some house of it. *Havelis* or mansions belonging to Jats who have made money in service or by trade are springing up in many villages. I have elsewhere given an account of the manner in which the Jats have monopolized the carrying trade. They are able to take up the greater part of the land that is mortgaged, and would have it all, but that there appears sometimes to be a foolish prejudice against a man mortgaging to his *sharik* or co-sharer, the idea of which appears to be that a man's indebtedness is not likely to be known, and he cannot be twitted with it, if his creditor is of the banking class. I need not do more than allude to the large fortunes made in trade by the mercantile classes in Ludhiāna and the other towns.

"This state of comfort and prosperity is entirely the growth of recent years. Under the Sikhs the cultivator had little room for saving left ; and there was no opening for trade or for remunerative investment of any sort. The prices of agricultural produce were low ; and it was not till twenty or twenty-five years ago that the improvement of communications raised them and brought a great deal of wealth into the district. This subject of prices is dealt with in Part II of this report, and it will be seen from what is written there that the great rise took place about twenty years ago, and that the average has remained very high ever since. The increase of wealth of the agriculturist has been accompanied by a good deal of extravagance shown in expenditure on marriage and other celebrations ; and the sums commonly spent in this way are double or treble what they were thirty years ago. I have already alluded to the large sums paid for girls. The Jats of the eastern parts do not waste much money on such occasions beyond the actual price ; but those of the west spend very large amounts on the celebration, and so do the Rājputs. To an ordinary cultivator in the Jangal or Jagraon villages a marriage in his family often means the expenditure of Rs. 500 to 1,000, even up to Rs. 1,500, and smaller sums go in *hangāmahs* or funeral feasts."

SECTION C.—RELIGIOUS LIFE.

General statistics
 and distribution of
 religions.

Table No. VII shows the numbers in each tahsíl and in the

Religion.	Rural population.	Urban population.	Total population.
Hindu ...	4,625	3,304	4 448
Sikh ...	2,303	453	2,055
Jain ...	13	177	35
Musalmán	3,059	6,027	3,457
Christian ...	...	38	5

whole district who follow each religion, as ascertained in the Census of 1881, and Table No. XLIII gives similar figures for towns. Tables III, IIIA, IIIB of the Report of that Census give further details on the subject. The distribu-

Sect.	Rural population.	Total population
Sunnis ...	991	991
Shiáhs ...	79	87
Wahábís ...	01	01
Others and unspecified	...	01

tion of every 10,000 of the population by religions is shown in the margin. The limitations subject to which these figures must be taken, and especially the rule followed in the classification of Hindus, are

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Religious Life.

General statistics and distribution of religions.

fully discussed in Part I, Chapter IV of the Census Report. The distribution of every 1,000 of the Musalmán population by sect is shown in the margin. The sects of the Christian population are given in Table IIIA of the Census Report; but the figures are, for reasons explained in Part VII, Chapter IV of the Report, so very imperfect that it is not worth while to reproduce them here.

Table No. IX shows the religion of the major castes and tribes of the district, and therefore the distribution by caste of the great majority of the followers of each religion. A brief description of the great religions of the Punjab and of their principal sects will be found in Chapter IV of the Census Report. The religious practice and belief of the district present no special peculiarities; and it would be out of place to enter here into any disquisition on the general question.

The general distribution of religions by tahsils can be gathered from the figures of Table No. VII; and regarding the population, as a whole, no more detailed information as to locality is available. But, as already stated, the agricultural population of the eastern part of the uplands is strong in the Hindu and weak in the Sikh element. Religion follows very closely the main division of the Jats, which is sketched in Section D (page 82), and Sikhism has laid hold on those of the western parts and of the *Jangal*, while to the east the people are mostly Hindu. The following details will show that this is the case :—

Tahsil.	Samrála	Ludhiána.	Jagraon
Hindús ...	69,154	130,478	55,608
Sikhs ...	16,893	63,633	46,617

The Hindu population of the Jagraon tahsil is made up of the mercantile, trading and miscellaneous classes inhabiting the towns and following their occupations in the villages; and it may be said that the Jat population is entirely Sikh, the total of the Jat population in the tahsil being about a quarter of that in the whole district (220,000). On the other hand, the proportion of Sikhs is very small in Samrála; and in the Ludhiána tahsil, to the east of the Máler Kotla road, most of the Jats are Hindús, while to the west of it and towards the *Jangal* they are all Sikhs. From what is said Section D (page 82) of the two types of Jat it will be seen that the adoption of one religion or the other depends in some degree on the mental qualities of the people, which again are the result of locality; but the real cause of the spread of the Sikh religion in the western parts is that this tract was always beyond the power of the Muhammadan Emperors, while in the villages round Sirhind it was easy to check it.

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General statistics
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The Jat of the east has little time for any religion, and we might expect the form adopted by him to be of a lower order, and more involved in superstition. He keeps his ancestor's religion as he does their system of cultivation; and wants no change, having few ideas beyond his fields. On the other hand, the Jat of the west is independent in his religion as in everything else; and Sikhism is just the sort of faith that would commend itself to his mind.

The Muhammadan portion of the agricultural population is confined to the Bét and the country just over it, which they hold to the almost total exclusion of Hindús. They have also villages scattered over the uplands; and the Muhammadan element is very strong in the town of Ludhiána.

Sultánis.

It is not necessary to enter into a detailed account of the various Hindu sects, but some mention may be made of the Sultánis, who make up the greater part of the Hindu Jat population. These are the followers of the Muhammadan saint, Sakhi Sarwar Sultán, whose tomb is at Nigáha, in the Dera Gházi Khán district. Mr. Ibbetson gives his date as of the 12th century. No one has yet been able to find out how and when the worship of the saint spread through this district; but it is said that the Jats brought it with them, and they may well have done so in the case of all immigrations within the last 300 or 400 years. It is probable that the belief spread eastwards in the 15th and 16th centuries, and that at the time of Guru Govind Singh most of the Jats held it, the conversions to Sikhism being from it. The Sultánis are nominally ordinary Hindús, worshippers of Shiv or of Dévi; but it is characteristic of popular Hinduism that the saint and his shrine, being something more tangible than the deity, have entirely excluded the latter, and that the saint should have been a Muhammadan. They are, as might be expected, very lax Hindus. An account of the *Bharáís*, or guardians of the village shrines of Sultán (*pírkháná*) will be found in the section on Castes (page 78). These *pírkhánás* have always the same shape—a square base with four small domes at the corners, and in the centre a small temple 10 or 12 feet high. There is a door in front of the shrine; and, facing this, two or three niches for lamps. Otherwise it is empty, there being nothing to represent the saint. The Thursday offerings at the shrine are not universal, and are generally made by the women. The *Bharáí* attends all that day. It is very common for a person wishing to attain some object (*e.g.*, to succeed in a law suit) to make a vow to the shrine; and offerings in this way also go the *Bharáí*. Once a year, on a Friday, the ceremony of "*Rót*" is performed in most Sultáni families. A huge loaf is made of one maund (*kachcha*) flour and half a maund (*kachcha*) of gur, and cooked. The *Bharáí* attends and beats the drum, and sings the praises of the saint while this is preparing; and receives one-quarter of the bread, the other three-quarters being eaten by the family and the neighbours. This is the great observance of the Sultánis, and they really appear to have no others.

Sikhs.

The Ludhiána district, and adjoining Cis-Sutlej territories, figure largely in the annals of Sikhism. Guru Nának and his successors made many converts in this tract; but it is more famous as the scene of the wanderings and persecution of the great Guru Govind Singh;

and it was here principally that the religion took its militant form from contact with the Muhammadans. Sirhind, the head-quarters of the Mughal power in these parts, is only a few miles east of the Samrála border. It was against this town that the earliest efforts of the Sikhs were directed; and it was here that after the dispersion of the Guru's followers by the lieutenant of Aurangzeb, the wife and children of Govind Singh were murdered—a deed that has made the town accursed to all his followers. It is in this district, too, that the latest development of Sikhism has had its origin under Rám Singh, Kúka. The two religions of the Jats, *i.e.*, the worship (for such it is) of Sultán, and Sikhism, do not really differ very much from each other in practice. The ordinary Sikh of the district is a Hindu who reverences the Gurus and their Scriptures, and in token of this has taken the baptism (*pahul*), and adopts at least some of the signs enjoined by Guru Govind Singh. The Sultáni is a Hindu who has inherited the worship of Sultán; but the more intelligent of them see the absurdity of this, and really believe in the Gurus as much as the Sikhs do. Sultánis are constantly taking the *pahul* or baptism, and the conversion makes almost no difference to them, except that they have to give up smoking. A Sultáni Jat will often say that he did not become a Sikh because his father was not one, and it was not the custom of his family to take the *pahul*, but that his sons would be Sikhs; and he had really no better reason for his own form of religion, which he admitted to be foolish. Such a distinction as the manner in which sheep and goats ought to be killed for food is not likely to affect a people who never touch flesh, and really consider it a sin to kill any animal. The Málwah Sikh of the present day admits the Hindu gods, and follows the Brahmins in everything. He is very unorthodox on most points, but has taken the *pahul* generally from the hands of some holy man who has visited his village, less often at Amritsar. After this he adds "Singh" to his name, if he has not taken it in anticipation, must renounce smoking, and keeps three out of the five "k's" enjoined by Guru Govind Singh, *viz.*, the *kés* or long hair, the *kanga* or wooden comb, and the *kach* or drawers. There is nothing approaching to bigotry in the disposition of the Sikh Jat; and so much of his faith as is not made of these few external observances, which are after all more of a social than of a religious character, is the religion of humanity preached by the earlier Gurus. A Sultáni will generally call himself a Sikh, and does not seem to recognize much difference between himself and the Guru Sikh, except that the latter cannot enjoy his pipe. Sultán is attended to once in the year; and even this is a mere matter of custom. The Sultáni will say that he reveres the Sikh Gurus; and no wonder, for the moral precepts of the *Granth* might belong to the purest form of religion. The real religion of both Sikh and Sultáni is a belief in one God, and in every-day life there is blind obedience to the Brahmin.

The most important of the recent revivals in Sikhism is that of the Kúkas, which is a protest against the present laxity, and an attempt to restore the political religion of Guru Govind Singh in its purity. "This sect was founded about 35 years ago by an Udási

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 Kúkas.

faqir, an Arora by caste, called Bálak Singh, who lived at Hazaron in the Ráwalpindi district. His followers were called Sagiásis or Habiásis; and after his death in 1863 the movement died away in the western Punjab, but was energetically stimulated in the central and eastern districts by his successor, Rám Singh, a carpenter of Bhaini in the district of Ludhiána. The tenets of the sect proclaimed Govind Singh as the only true Guru, who prohibited all worship save the reading of his 'Granth,' and all employment of Brahmins, and in many ways revived the original doctrines of the Sikh faith. They included the abolition of caste and of restrictions upon intermarriage, abstinence from meat, liquor and drugs, and comparatively free intercourse between the sexes. The sectaries carried staves about in their hands, tied their turbans in a peculiar fashion (*Sídhapág*), wore a necklace of woollen cord tied in knots, and had a watchword known only to themselves. Rám Singh presently declared himself to be an incarnation of Guru Govind Singh, and preached the revival of the Khálsa and the overthrow of the English Government. His followers used to meet by night for the purpose of drill, while, as usual in such cases, a good deal of religious hysteria was excited, and ended in much sexual license. The attention of Government was attracted to these proceedings as early as 1863, and shortly after this date the sect began to be known as Kúkas, or 'shouters,' a name which has now superseded their original designation. For several years these people did nothing worse than defile or destroy shrines and idols, and murder butchers and others whom they suspected of slaughtering kine; but as early as 1869 there was a small Kúka outbreak in Ferozepore which seems to have had a political object; and in January 1872 the Kúka rising in Máler Kotla took place, which ended in fifty of the ring-leaders being blown away from guns, some thirty more being executed, and Rám Singh being deported. The sect cannot be said ever to have attained any general popularity; its followers have throughout been drawn almost exclusively from the lowest classes, their attacks upon sacred places have outraged the feelings of their neighbours, while the pure morality which they at first preached has been superseded by the most unbridled license under the name of religious enthusiasm, men and women dancing naked together and indulging in orgies which have alienated the sympathies of the more decent portion of the community." The above account of the Kúkas is taken bodily from Mr. Ibbetson's Census Report. To it the following particulars may be added. Rám Singh was born in Bhaini Ala, 14 miles east of Ludhiána, about the year 1820, the son of Jassa, a carpenter. He was at one time in service in the Khálsa army at Lahore; and, on giving this up, established a shop at Ludhiána. This failed, and he worked as a carpenter in his own village and at Ludhiána. Then he took to wandering about the country plying his trade; and finally became the disciple of Bálak Singh in Hazaron. When he had established some reputation, he settled down at Bhaini between 1850 and 1860, and thence disseminated his doctrines. The sect increased rapidly, and followers came from all parts, never empty handed. He was soon able to set up a large *Dérak*; and at the

time of his arrest in 1872 used to go about followed by a large retinue and in great state. It is very doubtful whether it can be said that even the majority of the Kúkas are drawn from the lowest classes, for the sect has made much more progress amongst the Jat Sikhs than any returns would show. The excesses committed by a small body of fanatics in 1872 were probably disapproved of by the sect at large. The principal outward signs of the faith are the straight *pagri* and the woollen cord (*máhla*); but since the outbreak of 1872 (of which an account will be found elsewhere) the first of these is not worn by many Kúkas; and the cord is kept under the clothes instead of outside, as it ought to be. A dispensation from the Dérá (where Budh Singh, brother of Rám Singh, resides) is easily obtained; and it is evidently the intention of the sect to give up all the outward marks of their faith so long as they are persecuted. A Kúka would call himself a Sikh unless he were well known to be a Kúka; and probably only a very small proportion of the followers of Rám Singh have been returned as more than Sikhs, which of course they are. The truth is that it is not possible for a Kúka to be a loyal subject of the British Government, as the avowed object of Guru Govind Singh, whose incarnation Rám Singh professes to be, was a temporal kingdom; and the establishment of this under Rám Singh is the first element in the faith of the sect. It is not to be expected then that any man, unless he were prepared to break with society and give his enemies a constant hold on him, would admit that he belonged to the sect; and most Kúkas would at the present time, even if asked the question directly, deny their faith.

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Kúkas.

The Muhammadans of the district are almost all Sunnis, 99 per cent. of them being so returned. No account need be given here of the tenets of the three sects. The Jats, Rájputs, Gújars, Aráins, Dogars are all converted Muhammadans; and their conversion was probably forcible, so that we should not expect them to be very strict, or their religion to be more than skin deep. They say their prayers when they have time; and generally keep the fast of Ramzán. The Muhammadan Rájputs are probably the most foolish in their religion, and most superstitious of all tribes in the district; and will believe in anything. The Awáns came to the country as Muhammadans, and are strong in their religion, most villages turning out several Maulvis learned in the law. They are, like the other Muhammadan tribes, guided by custom on questions relating to land; but, after the Settlement Officer had attested their tribal code in 1882, a very strong representation was made to him to the effect that, although customs contrary to the Muhammadan law had established themselves, the tribe now wished to enter into an agreement for the future strictly to abide by the latter.

Muhammadans :
character of their
religion.

Mention has been made of the shrine of Sakhi Sarwar in Dera Gházi Khán. This is a very favourite place of pilgrimage for people of both the Hindu and Muhammadan religions, but principally for the Sultáni Hindus. Bodies of pilgrims start from the district in charge of the *Bharáís* in the month of Phágun (March), and return in Chét (April), the journey taking about six weeks

Pilgrimages and
religious fairs
frequented by the
people : Sakhi
Sarwar.

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if performed on foot, as it generally is. Offerings are made at the shrine of money, clothes, &c., without any special ceremonies; and three or four days are spent there. A *rôt* is often made (see page 66 *ante*). It is said that leprosy used to be cured by a visit to this shrine; but generally a man gets whatever he wishes by making the pilgrimage, or goes on it to fulfil a vow.

Temple of Dévi at
Jawála Mukhi.

Hindus of all tribes go from this district to the temple of Dévi at Jawála Mukhi in the Kángra district. They are accompanied by their families, while, as a rule, men only go to Sakhi Sarwar. There are four seasons appointed in the year for this pilgrimage, the principal ones being in March and September. Offerings are made at the shrine, and the hair of the children cut off and left there. Some also go to Naina Dévi; and the Sikhs reverence this shrine because "Guru Govind" spent some time at it. The road to Jawála Mukhi lies through Hoshiárpur, and to Naina Dévi through Ráhon or Rúpar.

Hardwár and
Amritsar.

Hindus also go from this, as from other districts, to the Hardwár fair, especially for the *Kumbh*, which comes every 12 years; and the Sikhs to the *Harmandar Ji* or temple at Amritsar, for the Baisákhi and Díwáli fairs, but not in any great numbers, and more probably with a view to purchase of cattle than of worship.

Kulchetar, Pihewa,
Phalgu.

The next three places of pilgrimage to be mentioned lie in the Umballa district near Thánesar, within what is said to be the circle where the last great battle between the Kaurus and Pándus was fought. Kulchetar ("Kurukshetra"—Cunningham) is close to Thánesar town; and, when there is an eclipse of the sun, crowds of pilgrims go there and bathe, the day having been duly notified by the Brahmins. Pihewa is 12 or 14 miles further on; and a great fair is held there on the last day of the Hindu year (Chét Chaudas), when the people bathe in the *Sarusti* stream, which runs close at hand. Besides this, when any one dies an unnatural death—by snake-bite, by accident, &c., in fact in any other than the orthodox way of being put on the ground—the funeral obsequies have to be performed by the Brahmins of Pihewa, to whom presents are made. When the last day of the *Sarád* or *Kanúgat* (the period of 15 days during which a Hindu worships his deceased ancestors) falls on a Monday, a religious fair is held at Phalgu, where there is a tank in which the pilgrims bathe. This fair was held in 1868, 1880, and will now be held in 1883. There is a constant stream of pilgrims to Pihewa, for a Hindu or Sikh *must* go there if the person whose obsequies he is bound to perform has died an unnatural death. All the Hindús and Sikhs of the district alike go to these three fairs, crowds of them to the eclipse fair at Kulchetar.

Muhammádan
pilgrimages.

A few Muhammadans go to the fair of the saint Pír Banohi held at Sunám in Patiála; one in 10,000 goes to Mecca; a great many go to Sakhi Sarwar, but the pilgrimage is essentially a Hindu institution.

Fairs in the
district: Chét
Chaudas.

The Chét Chaudas fair of the Hindús is held at four places in the District—Ludhiána, Máchiwára, Gadowál and Sidhwán. The first three of these are over the Budha Nála, and the fourth close to the river. Hindús come, bathe, walk about, and then go quietly home. Some 30,000 from the villages come to Ludhiána, and about 10,000 to Máchiwára.

The Roshani Fair is held at the shrine of a saint Pír Abdul Quadír Jaláni (called generally "Pír Sáhib") which lies in the open space between the Fort and City of Ludhiána. This is a Muhammadan fair; but the Hindús of the City join in it. It is held on the 9th—11th of the Muhammadan month of Rabiulsáni (called Míranji); and thus falls on a different date every year. The Muhammadans come from all the villages round, make offerings, and pay their respects to the shrine. There is a peculiar custom of bringing cattle and keeping them tied up at the shrine all night for good luck, this being called *chauki*, i.e., the cow or buffalo "watches" at the shrine. The fair is attended by 40,000 to 50,000 people from the villages; and the offerings, which are taken by a family of Sofis, amount to Rs. 300 or 400. The name "Roshani" is derived apparently from the tomb being illuminated at night during the fair.

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Religious Life.
Roshani Fair.

The Bhaiwálá (Bhaibálá) Fair is held in a piece of waste land of Dád, a village close to Ludhiána. It falls in the month of Mágh (10th Sudi), or about January; and is in honour of a disciple of Guru Nának, called Bála. There is a *Samádhi* and also a tank; and Hindus go and make offerings of money, grain, &c., which are taken by the *massands* or guardians (Khattri Sikhs of Kudhání, Patiala territory). The people also make curds overnight and take them to the fair, where they eat or distribute them after presentation to the shrine; and it is the duty of every one to scoop out several handfuls of earth, originally no doubt with a view of increasing the size of the tank. The fair lasts one day, and some 10,000 people attend it.

Bhaiwálá Fair.

The Sudlakhan Fair at Chhapár, on the southern border of the district, is also an important one. It is held in the month of Bhádon (September) in honour of "Gúga" (for an account of whom see Cunningham's Arch. Survey, Vol. XIV, pages 79-86); and there is a large shrine, or *Múri*, in his honour. The local account generally given of Gúga is that he was a snake, and changed his form to that of a man in order to marry a princess. Afterwards he returned to his original shape; but in the meantime acquired a great kingdom and won renown, which has come down to the present time. The *dhádís*, or itinerant minstrels, make up stories about Gúga as they go; and it is impossible to say what he was originally. The fair is a Hindu one, but Muhammadans also attend; and some 50,000 people assemble. Offerings are made at the shrine, which are taken by the resident Brahmins, and these amount to some Rs. 300 a year. As at the Bhaiwálá Fair, the people scoop out the earth, and cattle are also brought to be blessed as in the Roshani Fair. The shrine is reputed to have the power of curing snake-bite, and it is said that a person bitten will recover if put beside it. Perhaps this reputation is due to the traditions about Gúga, in all of which there is something about snakes.

The Sudlakhan or
Chhapár Fair.

The only other fair worthy of mention is that of Bure Sháh, or *Makiphan*, held at Jángpur (Jagraon tahsil) in September when the maize is ripening. It is a Muhammadan fair really, and Muhammadan *faqírs* collect from all parts, but the Hindu Jats also come in great numbers. Altogether some 10,000 attend. The fair is held

Jángpur Fair.

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Religious Life.

Religious and
charitable
institutions.

Dharmśālās and
Langars or
alms-houses.

at night, and the people light lamps at the shrine and make small offerings, which are distributed amongst the *faqirs*.

A great feature in the Jat villages of the uplands is the *Dharmśāla*, an institution partly religious, partly charitable, in charge of an ascetic or *Sādhi* of the Udāsi or of some other order. This is endowed with a grant of land, either out of the village common, or from some private individual. It is the duty of the *Sādhi* to spend all that he gets from the land or by begging in feeding the poor, keeping the *Langar* or alms-house going. Where, as in most cases, the occupant is an Udāsi, he or one of his disciples (*chela*) also reads the *Granth* or Sikh scriptures. In the larger institutions of this sort the *Sādhi* and his *chelas* make up a college, the former being called the *Guru* or father of the *chelas* and the *Mahant* of the institution. The *chelas* collect money and sometimes set up in other villages similar institutions, affiliated to the original one. In former times the reputation of these *Dharmśālās* was very great, and few villages were without one; but their treatment in our times has resulted in the closing of most of the old ones. The grants of land were of course intended for the support of the institution; and under Sikh rule if a *Sādhi* misbehaved he was at once turned out. But at the Regular Settlement the incumbent was in every case returned as owner of the land, which was at the same time exempted from revenue for the period of Settlement. The result of this has been that the *Sādhi* has in most cases taken a wife, closed the *Dharmśāla* to the public, and he or his children are now mere landed proprietors, with a very comfortable house built at the public expense. In some cases the *Sādhi* has not actually married, but taken to evil courses; and the people are powerless to prevent his misappropriating the receipts. Mr. Walker quotes instances in which a *Dharmśāla* of great repute has thus been ruined by a profligate *Sādhi*, who retained the land and house; and the villagers have actually had to create another endowment and build a new *Dharmśāla*. There was a very famous alms-house at Jassowāl with endowments which amounted to several hundred acres, most of them unfortunately held revenue-free in perpetuity; and this has now fallen into the hands of a worthless character, and is closed to the public.

Bāgrīān *Langar*.

There are two or three famous *Langars* or alms-houses well known throughout the country. That of Bāgrīān lies 40 miles south of Ludhiāna and is administered by a resident family of Takhāns (called Bhāis), who hold in *jāgīr* two or three villages in our territory and more in Patialā and the other States, besides owning a large area of land. Numbers of travellers are fed daily from the public kitchen, which is open to all comers; and about 1,000 maunds of grain are distributed to the public annually. The *dērah*, or building, is a very extensive one. The family has always been in the habit of marrying, and the son succeeds as manager. The present Bhāi, Narain Singh, is a gentleman of note and an Honorary Magistrate in his own large village of Bāgrīān. This *Langar* was kept open in the worst years of drought (1862 and 1868), when the smaller institutions throughout the country were closed, and afforded relief to numbers of the poorer classes

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Religious Life.

Jaspal Bangar
"Langar."

who flocked to it in search of food. There is also a large *Langar* at Jaspāl Bāngar, near Ludhiāna, which is kept by a family of Udāsi *jaqīrs*, whose custom is also to marry. This is an ancient institution, the first endowment having been made in the time of the Emperor Mahomed Shāh, and successive rulers having added others, till they have grown to some 800 acres. The present Mohant is Partāb Dās; and he appears to do his best to keep up the institution, which is held in great repute. His father, Gúlab Dās, is said to have died deeply in debt in consequence of his expenditure in keeping the *Langar* open in the years of scarcity. The Heran (Jagraon tahsil) *Langar* is held by an Udāsi ascetic; and, although its endowments are not so large as those of the other two, it is almost as well known. The present Mohant, Gursarn Dās, is said to have distributed in the famine of Sambāt 1917 (1862) 8,000 maunds of grain which his predecessor had stored, and to have invited the starving people from all quarters, sending no one empty away.

Heran *Langar*.

A whole book might be written about the religious observances, superstitions, &c., of the people; but it will suffice here to refer to a few points in connection with this subject, which will serve as illustrations of the popular forms of belief.

Observances and
superstitions.

Hindús and Sikhs, except Kúkas, are greatly ruled by Brahmins. Every one has a *parohit* or priest for every-day life, and a *páda* or superior priest (who must be a learned man, read in the Scriptures) for marriage and other celebrations. Whatever observances a Brahmin enjoins must be performed; and there is often a good deal of tyranny, hard penances being ordered for trifling faults. The Muhammadans have not the same necessity for priests in every-day life; but it is scarcely their own fault that they are so free, for they would readily believe anything; and this appears to be the only point of superiority in their every-day religion over that of the Hindús, that they are not allowed to indulge in rites and superstitions to the same extent.

Power of the
Brahmins and
priests.

It may be interesting to note a few of the more common superstitious connected with agriculture. A Jat must, before he begins to prepare his fields by ploughing for any harvest, ask the Brahmin whether the land is awake or asleep. If he is told that it is asleep, he must wait six days till it awakens. Then he may go on ploughing it whenever he likes. He must begin to sow any crop or harvest on Wednesday, and to cut it on Tuesday; and these rules are never departed from. Certain sorts of cattle must not be bought on certain days of the week—a buffalo on Tuesday, a cow or ox on Wednesday; and the prejudice against these days is not peculiar to the Hindús, as the Muhammadans appear to act on it. The observances attending the construction of a new well are elaborate. The Brahmin is asked to mention a lucky day and hour, and at the appointed time the digging of the well is commenced, and the *chak* or wooden frame put into the ground. The Brahmin ties a string to the *chak* and says some prayers, and then *gúr* is distributed to the on-lookers. When the well is ready, the Brahmins are again called and fed, as well as any stray *jaqīrs* that there may be about, and not till this has been done is the well used.

Agricultural
superstitious.

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Religious Life.

Supernatural
agency.

The belief in ghosts and other supernatural agents is universal, and shared by Hindús and Muhammadans alike. The malevolent spirits usually recognized are *bhuts* and *churéis*. A *bhut* is said to be the spirit of a man who has died *av-ghat*, i.e., not on the ground and according to the proper ceremonies; while a *churél* is the spirit of a woman who has died within 40 days of childbirth or *av-ghat*, as in the case of a man. Funeral ceremonies performed at Píhewa set the spirit at rest. If an evil spirit is offended, it takes possession of the offender and works ills, bodily and mental. It may be expelled by a piece of red pepper put in the nose of the sufferer, or by inhaling the smoke of burnt rags. If this does not succeed, the patient may be taken to the shrine of Pir Banohi at Sunám, and the spirit exorcised. Another form of exorcism is that a lamp is moulded of dough, filled with oil and kept burning beside the patient. A girl sits feeding the lamp, and is asked what she sees in the lamp from time to time. She invents several things, and then says she sees a Darbár with people sitting in it, and amongst them the *churél*. On this the oil is carefully poured into a jar or bottle and corked up, the *churél* being, of course, in it. Men and women are said to have the power, by repeating a certain charm, which few happily know, of extracting the liver from a child, thus causing its death. Such an unpleasant person is called a *Dáin*; and if he or she looks at a child, death is the result. A *Deo* is an ordinary spirit who haunts old wells, pipal trees, and dark places generally. He is an orthodox ghost apparently, and many weird stories are told of him.

Sacred groves.

Sacred groves are to be found in some villages. The superstition about them generally is that they mark the spot where some holy man has become a *Sidh*, i.e., been absorbed in the deity; and no one of the villagers would dare to cut even a twig of the wood. *Faqírs* and other holy men are allowed to take what they want for their own use; but the people believe that death would follow any such sacrilege committed by themselves. The *Sidh* is, strangely enough, supposed still to reside in the grove.

The American
Mission.

The following account of the well known American Mission at Ludhiána has been kindly contributed by the Rev. E. M. Wherry, the head of the institution:—

“This mission, with outstations at Jagraon, Morinda and Rúpar, is connected with the American Presbyterian Church in the United States of America, and controlled by a Board with its head-quarters at New York. Ludhiána having been the first point occupied by the Society in India, gives its name to the Mission, including principal stations in the following cities of the Punjab and North-West Provinces: Ráwalpindi, Lahore, Jullundur, Hoshiárpur, Ludhiána, Ferozepore Umballa, Subáthu, Saháranpur and Dera Dún.

The Mission was established at Ludhiána in 1834, the Rev. John C. Lawrie, D.D., being the first missionary. He was, however, unable to remain more than one year, when he was succeeded by the Rev. John Newton, the veteran missionary of Lahore. He arrived in 1835, bringing with him a wooden press, the first ever seen in this part of India. With this began the establishment now known as

the Ludhiána Mission Press, which publishes books in all the languages and characters used in this province.

The principal agencies used in the Mission work, beside preaching, are: (1), the High School for boys, established in 1834, with several branches in the city, opened later in its history; (2), the Press already noticed, at which is published a weekly vernacular newspaper, entitled the *Núr Afshún*, printed in Persian Urdu, 8 pages 4to royal, circulation 750 weekly; (3), a Christian Boys' Boarding School, established in 1875 at Lahore, but transferred to Ludhiána in 1877. It was suspended for three years, but re-opened in 1883. Extensive buildings are being erected with a view to the establishment of a High School.

For many years an Orphanage for girls and a Dispensary with a missionary doctor in charge, but both these are now suspended.

A Church was organized in 1837, with which is now connected a community of Native Christians, numbering 250 souls. The sons and daughters of this Church are found in every part of North India, employed in other Mission Stations. An extensive itinerant preaching work is carried on in the district, and a good deal of work is done in the city by means of chapel services, street preaching, and teaching of women in the Zanánas and Girls' Schools.

In 1845 the Mission Press, with all the books in the Depository, was burned down. The loss was made good by the liberality of the European public in India. In 1857 every building connected with the Mission, excepting two dwelling houses, was burned up by mutineers from Jullundur, assisted by the rabble of the city. Indemnity was paid by the authorities, a tax being levied on the city for the purpose. Fortunately all the Missionaries and Native Christians were enabled to escape with their lives.

The present European staff is as follows: 3 missionaries and their wives, 2 unmarried ladies, 3 native ordained ministers, 4 native unordained preachers, 14 native Christian teachers and 10 non-Christian teachers. About 120 persons are employed in connection with the Press.

The influence of this Mission upon the people of the city and province has been very considerable. A large proportion of the men in the city are now able to read and write the vernaculars, and multitudes can speak or read the English language as well. The pupils of the Mission are found in every office in the Punjab, and the first Native Civil Servant (Covenanted) of the province was educated for College in the Mission High School. Two per cent. of the female population were under instruction in Mission Girls' and Zanána Schools in 1883. The result of the school work and the influence of the Press have been the awakening of thought in many minds. Prejudices against the Christian religion have been softened; while a fair degree of success in the way of conversions has been obtained.

Mention should also be made of the work of the ladies connected with the London Society for the Promotion of Female Education in the East, with which is connected a large Boarding School for girls. Seven European ladies connected with this Society carry on girls'

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Religious Life.

The American Mission.

Chapter III, C.**Religious Life.**Ludhiāna Mission
Press.

schools and zanaṇa work; conduct a Hospital for women, besides teaching in the Boarding School already mentioned.

The clumsy wooden press mentioned above was the first printing press ever established in the Punjab. Since its institution in 1835 Books, Tracts, and Sacred Scriptures have been scattered broadcast over all parts of India—in Persian, Urdu, Hindi, Panjābi and Kashmīri. Some idea of the zeal of the missionaries may be had from the fact that the total number of 25,000 Books and Tracts, with portions of Scripture, were given away at the Hardwār fair in the year 1844. Early in 1845, the press, with all the stock in hand, was burnt down; only the wooden press and a portion of the type escaping the fire. However, friends in India came forward, and contributed a sum, not only sufficient to cover the Rs. 20,000 lost, but also enough to enable the missionaries to publish a number of books besides. During the following three years, 68,000 volumes were published; new founts of English, Hindi and Panjābi type were obtained, so that the Press was enabled to undertake a large amount of work for the public, besides printing the books published by the Mission. Among the works thus published for public benefit were the Panjābi Grammar, idiomatic sentences in English and Panjābi, and a Panjābi Dictionary, published in 1854. These books are still the only resource of Her Majesty's officers who must acquire the Panjābi language, for which they are indebted to the Venerable Dr. Newton and the martyred Janvier.

In 1857 the Press was again burnt down by the mutineers, and the Depository on the Mission premises, with its contents of many thousand volumes of books for distribution, was reduced to ashes, its broken and blackened walls alone remaining. The greater part of the loss incurred at this time was made to the Mission by a tax levied on the city, and so we find the Press in full operation again in 1858. From that time to the present, the work of this institution has been carried on with scarcely any kind of interruption. Books and Tracts have been published by the thousand every year, under the auspices of the various Bible and Tract Societies, American and English. The first complete edition of the New Testament in Urdu was published in 1865, and the whole Bible in 1868. The latter year saw also a complete translation of the New Testament printed in Panjābi.

Up to the year 1870 the Mission had supplied all publications, except the complete Scriptures, to missionaries, free of all cost, the missionaries usually giving them to the people gratis. The question as to the wisdom of this policy was then raised, as it became evident that large quantities of Scriptures and Tracts found their way into the bāzārs, where they were sold merely as waste paper. The result of the discussion was that the policy of selling almost all books at a nominal price, just large enough to prevent their being purchased as waste paper, was adopted. The expectation was that the number of books distributed would be very much less than in previous years. But it is a matter of record that the largest number of volumes ever printed in a single year at Ludhiāna was issued in the year 1872, the number being 187,000.

In 1873 a vernacular newspaper in Urdu—semi-religious and entitled the *Nār Afshān*—was started by the Rev. E. M. Wherry, of Ludhiána. At first it contained but 4 pages of reading matter, but it was soon enlarged to 8 pages. It has now a weekly circulation of about 700 copies, and is read by all classes of people in all the principal towns of the province, as well as in some distant cities of the Empire. Though it is a religious journal, and has a special reference to the Muslim controversy, it depends for the most part on non-Christian patronage, and, with the aid of an annual grant of paper given by the Punjab Religious Book Society, it is supported free of cost to the Press.

Chapter III, D.
Tribes and Castes.
Ludhiána Mission
Press.

The whole number of Scriptures and portions printed since 1834 in Urdu, Hindi, Panjábi, Persian, Kashmíri, Sindhi and other dialects, has been nearly six hundred thousand; whilst the number of books and tracts aggregate nearly five millions.

The Ludhiána Christian Girls' Boarding School was established in 1871, with the view of training Native Christian girls as teachers. They are taught the vernacular and a little English, Government text books being used for the most part. In 1882 there were 37 boarders and 29 day scholars, besides 11 little boys who have since been transferred to the American Mission School, Muhammadan and Hindu girls are admitted if willing to conform to the rules of the school; but no separate arrangements are made for them on account of their religion. The staff consists of two English ladies, a matron, two pupil teachers, and a pandit. The school was established by the Society for Promotion of Female Education in the East.

Ludhiána Christian
Girls' Boarding
School,

SECTION D.—TRIBES AND CASTES.

Table No. IX gives the figures for the principal castes and tribes of the district, with details of sex and religion, while Table No. IXA shows the number of the less important castes. It would be out of place to attempt a description of each. Many of them are found all over the Punjab, and most of them in many other districts, and their representatives in Ludhiána are distinguished by no local peculiarities. Some of the leading tribes, and especially those who are important as landowners or by position and influence, are briefly noticed in the following sections; and each caste will be found described in Chapter VI of the Census Report for 1881.

Statistics and local
distribution of
tribes and castes.

The Census statistics of caste were not compiled for tahsils, at least in their final form. It was found that an enormous number of mere clans or subdivisions had been returned as castes in the schedules, and the classification of these figures under the main heads shown in the caste tables was made for districts only. Thus no statistics showing the local distribution of the tribes and castes are available. But the general distribution of the more important land-owning tribes is sketched in the following pages. Mr. Walker, from whose report the description about to be given of the several castes is taken, thus classifies the population of the district:—

Chapter III, D.

Tribes and Castes.
Statistics and local
distribution of
tribes and castes.

Class.	Tribe.	Total.	Percent of whole population.
Priestly and religious ...	Brahmin ...	25,121	4
	Faqir ...	19,185	3
Traders & shop-keepers ...	Khatri ...	15,944	3
	Pania ...	8,722	1
	Sunār ...	5,562	1
	Sūd ...	2,075	...
Agriculturists	Jat ...	222,665	38
	Rājput ...	30,957	5
	Gūjar ...	30,759	5
	Arāin ...	27,229	4
	Awān ...	3,312	1
Menials and artizans ...	Chamār ...	59,655	10
	Chūhra ...	18,525	3
	Julāha ...	14,728	2
	Takhān ...	18,809	3
	Jhūwār ...	15,835	3
	Nai ...	11,045	2
	Lohār ...	8,521	2
	Kumbhār ...	8,226	1
	Mochi ...	8,171	1
	Chimba ...	7,158	1

This leaves 56,212, or 9 per cent. of the whole population unclassified.

Distribution of
land among agricul-
tural tribes.

Priestly and
religious classes :
Brahmins.

Other religious
classes : Bharāis.

The table given on the next page, taken from the Appendix to the Report in the Revised Settlement, shows the distribution of land and revenue among the chief agricultural castes of the district.

The Brahmins of the district are scattered all over it. They are seldom to be found engaged in trade, and for the most part live on the Jats of the uplands, few villages being without two or three families: but their services are also required by the Hindus of the large towns. They are of the usual subdivisions of Sārsūt Brahmins, and no detailed account of them is necessary. The Hindu (Sultāni) Jats perhaps pay them more attention than the Sikhs, but even the Muhammadan Rājputs make use of their services on occasions.

The principal ascetic classes included under the general term *faqir* are:—*Bharāis* (5,590). The Hindu Jats of the eastern parts are almost all *Sultānis* by religion; and outside of each village there is a small *Pir Khāna* or shrine erected in honor of Sakhi Sarwar Sultān; and this is in charge of a *Bharāi* or guardian, who is a Muhammadan, and is not a celibate. These men are said to be Shékhs, because they belong to no other tribe. Every Thursday they go to the shrine in the evening, light a lamp and beat a drum at it. The people make small offerings of cash, grain, &c., (*charāwa*), which the *Bharāis* take. They also receive small presents at other times and accompany the pilgrims who go to visit the tomb of the Saint Sultān in the Dera Ghāzi Khān district. There is generally a small plot of land, half-an-acre or so, attached to the village shrine, of which the *Bharāi* gets the produce.

Udāsīs.

The *Udāsīs* (2,366) are Sikh ascetics of a sect founded by the eldest son of Guru Nānak (Śrīchand). They are mostly Jats by origin, the *chēla* or disciple and successor being usually chosen

Distribution of Land amongst the Agricultural tribes.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
HINDUS.																							
JATS.																							
Name of tahsil.	Garewal.		Gill.		Sidhu.		Dhaliwal.		Dhilon.		Sekhon.		Bhandér.		Other Jats.		Total.		OTHER HINDUS		Grand Total.		
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	
Saursala	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,18,512	1,80,069	1,18,512	1,80,069	12,612	14,861	1,31,124	1,95,930
Ludhiana	97,931	54,725	13,145	13,644	22,448	11,108	11,810	10,786	6,470	5,221	4,940	5,517	11,437	15,177	1,40,046	1,60,183	2,54,227	2,85,451	37,828	26,362	2,92,055	3,11,813	
Jagraon.	3,648	3,546	13,341	12,007	24,003	21,608	10,376	15,163	5,557	4,989	..	..	..	..	..	1,16,803	1,11,556	1,80,082	1,68,909	14,798	10,991	1,94,898	1,79,900
Total	41,570	58,281	26,486	25,741	47,051	42,706	23,18	26,249	11,727	9,921	4,940	6,517	11,437	15,177	3,81,421	4,61,438	5,62,821	5,35,029	65,168	52,214	6,18,007	6,87,243	
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44			
MUHAMMADANS.																							
Name of tahsil.	Kajput.		Guzar.		Arain.		Jat.		Others.		Total.		Rupmans.		Other Tribes		TOTAL.		TOTAL.				
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.			
Saursala	18,347	22,851	5,108	7,323	1,360	2,328	24,020	30,844	3,101	3,001	53,436	60,340	16	..	1	1	16	1	1,84,570	2,61,871			
Ludhiana	47,013	38,841	38,497	31,385	11,768	12,592	12,320	14,086	27,380	21,054	1,30,998	1,17,988	4,200	61	786	390	4,986	430	4,34,039	4,30,281			
Jagraon	21,148	14,971	17,446	14,337	16,861	14,076	21,726	1,089	10,755	7,854	67,312	53,221	..	..	799	401	799	401	2,63,538	2,33,525			
Total	40,508	70,663	61,051	53,045	30,900	29,893	38,062	46,012	41,216	31,939	2,55,346	2,37,549	4,216	61	1,558	794	6,854	885	8,92,157	9,25,677			

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Statistics and local
distribution of
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Tribes and Castes.
Udāsīs.

from this tribe, and are to be found in possession of the *dharmśālas* in Hindu villages, where they distribute food to such as come for it, and read the *Granth* both of Bāba Nānak and of Guru Govind Singh, although they do not attach such importance to the latter. The head of the college is called *mohant*, and the disciples *chēlas*. They live in Sikh as well as in Hindu villages, and it is probably on this account that they do not quite neglect Guru Govind Singh. They rarely marry; and, if they do so, generally lose all influence, for the *dharmśāla* very soon becomes a private residence, closed to strangers. But in some few families, such as that of Jaspāl Bāngar, which keeps a very large *Langar* or alms-house going, it has always been the custom to marry, the endowments being large enough to support the family and maintain the institution; but the eldest son does not in this case succeed as a matter of course. A *chēla* is chosen by the *mohant* or by the family. If a *mohant* whose predecessors have not married should do so, he would lose all weight with the people. It has been shown in speaking of the grants for *dharmśālas* and *langars* (page 72) how we have encouraged this class to throw off their religious character by converting them into mere landed proprietors.

**Bairāgīs, Saniāsīs,
 &c.**

The *Bairāgīs* (1,889) are to be found in charge of the *thākardwārās* or temples of Thākar, and the *Saniāsīs*, who are very few in number, of the *dēvidwārās* or temples of Dēvi. There are a very few *Nirmilās* and *Nihangs* to be found in some villages, where they occupy the *dharmśālas*, and also some *jogi* faqīrs. These do not require a detailed account. There are one or two *dērahs* of *Suthra Shāhī* faqīrs.

Saiads.

The *Saiads* have not been included in the religious classes, as they are really agriculturists. The *Bhurāls* though Muhammadans, minister chiefly to the Hindūs. There are a few Muhammadan faqīrs belonging to the *Malūri* and *Jalūli* sects mostly.

**Mercantile classes :
 Khatrīs.**

Chief amongst the mercantile class are the *Khatrīs* (15,944). They are to be found mostly in the towns, and engaged in trade of all sorts. The principal *gots* are *Beri*, *Maria*, *Lumb*, *Jaidke* in Jagraon; *Thāpar*, *Dhande*, *Adh* in Ludhiāna. Elsewhere the *gots* are very mixed.

Bānias.

The *Bānias* (8,722) are not numerous, but are to be found everywhere. In the Jangal villages they are the shop-keeping class to the exclusion of all other tribes. They are in religion Jaius and Hindūs (*Vaishnavas*), principally the latter. The Agarwāl *got* predominates.

Sunāiās.

The *Sunārās* (5,962) are found all over the district, and are engaged in their trade of gold and silver-smiths.

The Sūds.

The *Sūds* (2,075) deserve mention here, because the Ludhiāna district is considered the head-quarters of the tribe. It appears from the Census Report that there are less than 20,000 of them in the province, and that more than a quarter of these are in the Kāngra district, and more than half in the Jullundur division. These people are distinct from all other Hindūs around; but their origin is a mystery, all explanation by the people themselves having the object of giving a meaning to the name which will reflect

honour on the tribe. They say that they are really the same as the *Raikwāls* of Agra, Delhi, &c., and they have the same *gots*, but do not intermarry with them. They have become a separate tribe like the Kaiaths, whom they resemble in the laxity of their religious observances, and in their liking for wine and flesh. Geographically they are divided into the hill (*Uchāndia*) and the plain (*Newāndia*); and socially, into pure (*Khura*) and inferior (*Gola*, *Chechār*). The Súd̄s of the hills are said to belong to the latter class, who have degenerated at some period by widow marriage. The line is now drawn hard and fast; and the two classes do not mix, although the *Gola* Súd̄s do not now marry widows. The Súd̄s are engaged in money-lending principally, and are to be found in Ludhiāna and a few villages round and in the town of Máchiwára. They are fond of service as munshís; and half the patwáris of the district and most of the kánungos till recently belonged to the tribe. Though of a good physique, they do not like active service. They are most intelligent, especially in their own interests; and there are many sayings in proof of this, *e. g.*, *Súd̄ pár, ghattri urár* (if a Súd̄ is on the other side of the river, leave your bundle on this side).

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Tribes and Castes.
The Súd̄s.

A better idea of the importance of the various tribes that make up the agricultural community will be got from the following abstract, which shows the proportions in which the land of the district is divided between them:—

Agricultural classes.
Division of the land
amongst them.

Total.	Jats.		Rájpút (Mu- hammadan)	Gújar (Mu- hammadan)	Aráin.	Others.
	Hindu.	Muhamma- dan.				
100	62	4	10	7	3	14

Thus the Jats make up more than one-third of the whole population, and own 62 per cent. of the land. They are distributed by religion as follows:—

The Jats. Religion
of the Jats.

Total.	Hindu.	Sikh.	Muhammadan.
222,665 100	95,000 43	102,447 46	25,218 11

The Muhammadan Jats appear to have been converted to Islám in the time of Aurangzeb. They are to be found in the Samrála and the upper part of the Ludhiāna Bét̄s, or just over them. The other Jats are either Sultánis (Hindús) or Gurú Sikhs (including Kúkas). The Jats adhere to their *gots* or clans through all religions; and their belonging to one faith rather than to another is generally a mere matter of locality. Thus we find of the *Garewāl Got* Muhammadan villages in the Samrála Bét̄; and in the uplands, Hindu or Sikh. The Muhammadans are perhaps rather bigoted; but with the others religion will be found to have at present a secondary place.

The Hindu Jat of this district deserves all the good things that have been written of the tribe. If the Jats are the best peasantry in India, we may say that the *Múlwah* Jat possesses in a greater

General qualities of
the Jats as
agriculturalists.

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Tribes and Castes.

General qualities
of the Jats as
agriculturists.

degree than any other branch of the tribe the qualities which have earned for it this distinction. In the *Málwah* country is usually included at least the whole of this and the Ferozepore districts, together with the greater part of the Protected Territory to the south of them. In physique the *Málwah* Jat is not surpassed by any race in India, if indeed he is not to be put at the top of the tree in this respect. No Regiment in the Bengal Army can show such fine stalwart soldiers as those recruited from this part of the country ; and although detractors are wont to say that he has a small heart in a large person, the *Malwái* has given ample proof that this is mere libel. The *Málwah* Jat appears to surpass his brother of the *Mánjha* in prudence and thrift ; and he is a better cultivator, more capable of managing his farm. As evidence of this, we may point to the manner in which the former has succeeded in the struggle going on under our rule between the agricultural and the money-lending class. With the *Málwah* Jat, as a rule, the class whose business is ordinarily money-lending has really very little chance, for the former turns his hand to this as easily as to anything else. When a Jat has spare money, he will not squander it ; but, if he gets a chance, will lend it on the security of land. Where Khatrís or Súdhs have established themselves in the early years of rule, it is very hard for the people to shake them off ; but in the Dháia villages most mortgages of land are to Jats, some of whom have established a very extensive money-lending business. The Muhammadan Jat, though much superior to the Rájput or Gújar, is not equal to his Hindu fellow tribesman. He is to be found along the river, principally in the Samrála tahsíl, and although excelling as a cultivator, he is often reckless and extravagant—a result that may be due either to his religion or to his surroundings, climate, soil, &c.

Two types of the
Hindu Jat.

There are two types of the Hindu Jat to be found in this district, the difference being entirely the effect of locality. The Jat of the *Pawádth*, or highly cultivated and irrigated eastern tract, is a slave to his land. With him it has been all work and no play for generations, and this has told on his physique and intellect. The cultivation of his holding is a constant round of toil, especially where there is a large area under sugarcane ; and he is lucky if able to knock off and give himself and his cattle a few days' rest during the rains. He has no thoughts beyond his village ; and never dreams of service. But withal he is thrifty to niggardliness, and industrious beyond comparison ; and it is sheer bad luck if he gets his head under water. When he has a little money to spare, he at once lends it on the security of some less lucky sharers' land. For the Jat of the *Jangal* the labour of cultivation is of the lightest description, and he appears incapable of remaining idle for long. He turns his hands most readily to carrying : but also goes in largely for cattle trade, service, anything in fact that will enable him to turn an honest penny, for he is seldom a rogue. His favourite method of spending the time between sowing and reaping, when he and his cattle would otherwise be absolutely idle, is to start with a cart in the direction of Ludhiána, sell his own grain, and whatever

more he can collect, and return with a load of *gur* or anything else that he thinks he will be able to dispose of at a profit. The cart is probably at first the ordinary rude one used in field work, and the cattle are those that work in the plough; but after a few successful journeys he buys a better cart and probably better cattle, thus extending the field of his operations. This difference of life has produced in him mental and physical qualities, much superior to those of the *Pawádh* Jat, although the latter is far ahead of other tribes in both respects; and one can tell the difference at a glance. The Jat of the *Jangal* is undoubtedly at present the finest stamp of peasantry in India. What he will be when irrigation from the Sirhind Canal is fully developed remains to be seen. The *Pawádh* Jat has but one string to his bow, while his brother of the *Jangal* has at present many. Hard cash finds its way into Jagraon and lower Pakhowál villages through half-a-dozen channels. Under former rulers, whose system was to take as much from the cultivators as they could get, the Jat was usually kept down; but since annexation his genius has had full play, and he is waxing fat. I do not know of any class that ought to be so grateful to us. On occasion he can be extravagant, and very large sums are sometimes spent on celebrations, especially in Jagraon tahsil. This generally means that a man has more money than he knows what to do with. Besides excelling as an agriculturist, the Hindu Jat is a good subject and a most respectable member of society. He has, as a rule, no vices; and, although I would not assert that a lively sense of gratitude to us as his rulers is ever present in his thoughts, he knows that our Government gives him greater security than any preceding one did, and he is quietly contented. His chief fault is quarrelsomeness, which has now developed into litigiousness.

To the east of the district, and especially in the Samrála tahsil, the multitude of *gots* amongst the Hindu Jats is a very remarkable feature. Not only do adjoining villages belong to different *gots*, but inside each village will generally be found two or three Pattis of distinct origin. This is accounted for by the manner in which the country was colonized. In the history of each village it will be seen that the founders came in comparatively recent times from different parts of the country, and belonged to different *gots*; and that they united merely for their own convenience, the common tie of belonging to the same tribe being sufficient. To the south and west, on the other hand, we do find that the Jats in some instances came in bodies, and villages belonging to the same *got* lie either in groups or within short distances of each other. Thus the *Sidhu* and *Gil* Jats appear to have come eastward in large parties, and to have settled down in adjoining or alternate villages in the western part of Jagraon. But the rule throughout the district is variety of *gots*, and the few groups of villages that there are, each belonging to one *got*, are the exception. The reason for this apparently is that in the eastern parts, in the neighbourhood of Sirhind and Ludhiana, the Imperial authority was always strong enough to protect its subjects, who settled down in small villages as they came; while in the west it was less felt, and people of one tribe had to collect in large villages

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for protection. In Samrála no attempt was made at Settlement to return the land as distributed amongst the various subdivisions; but in the other tahsils it was possible to do this roughly, as there were a few *gots* owning villages and groups of villages. And the details of area held by the leading *gots* in these two tahsils, as ascertained by the Settlement Officer, are shown below, in percentages of the total area of each tahsíl:—

TAHSIL.	Total Jats.	Garewál.	Gil.	Sidhu.	D háliwál.	Dhilon.	Sekhon.	Bhandhér.
Ludhiána ...	59	8	3	5	3	1	1	3
Jagraon ...	63	1	5	9	6	2	...	...

Garewál Jats.

First in rank are the *Garewál* Jats. This *got* holds about 50 large villages near Ludhiána in a group, and members of it are also to be found scattered over the district; but their number is not shown in the Census tables. They trace their descent to a Rájpút, Rája Rikh, who came from the south and settled in Kahlúr in the hills. Bairsi, son of Rikh, left Kahlúr and settled at Naiebád to the south of Ludhiána, and contracted a marriage with a Jatni, called Rúpkaur, and had to start a *got* for himself, as his brothers would have nothing further to do with him. His son was *Gare*, whence the name of the *got*; but another fanciful origin is *Karewál* from *Karéwa*. The descendants of Bairsi gradually spread over the country to the south-west of Ludhiána. The Garewáls are admitted by the other *gots* to be superior, and are called *Sáhu log*, i.e., superior. As amongst the Rájpúts, their women are secluded, and do not take part in field-work. Their girls are sought in marriage by the best families of Sardárs, and even by Rájás. The Garewál families of Raipur, Gujarwál and Nárangwál had a sort of local authority at the close of the last century, and are called by pre-eminence *Sáhu log*. The Garewáls are in consequence of all this the proudest of the Jats, and somewhat inferior as cultivators. They are also very extravagant and quarrelsome; but they take to service better than any other *got* as they hold it honourable, and in all of their villages will be found men who are either serving in our army or in receipt of pensions. A great deal of money thus finds its way into their hands. When they trust to cultivation alone, they are not so successful.

Gils.

The *Gils* own about 40 villages, mostly in Jagraon tahsíl, and are returned as 11,899 in number. They are next in rank to the *Garewáls*, and their women are secluded. They are also fond of our service. They here claim descent from Súrajbansi Rájpúts, their ancestor being a king of *Gharméla* in the south, whose son, Akaura, took to agriculture. The son of Akaura, Gil, founded the *got* which moved northwards by degrees. They came to this district from Kusla in the *Jangal ilāga* about 250 to 300 years ago, in the reign of Sháh Jahán it is said. The *Gils* are first rate agriculturists; but their habits are generally extravagant.

Sidhus.

The *Sidhus* have a good many villages in Jagraon tashíl, where there are two or three "Sidhwáns." They are a well-known *got* throughout the Lahore and Amritsar divisions, and much has been written of them. Those of the Ludhiána distirct are of the *Barár*

subdivision; and came from the south-west, from Farídkot it is said, in the time of the Rais within the last 200 to 300 years. The *Sidhus* number 13,194.

The *Dhálíwáls* (12,145) have a good many villages lying about Pakhowál and in the Jagraon tahsíl mostly. Their ancestor was, as usual, a Rájput, who came from Jessalmir and settled in Kángar in Nábhá territory, becoming a Jat. From Kángar his descendants came into this district under the Rais and their Sikh successors. The *Dhálíwáls* are accounted one of the superior *gots* of Jats, but do not differ much in their customs from the others.

The *Bhandhérs* are the descendants of Bhandhér, who was the offspring of the union of a Rájput and a woman of inferior caste. He settled in Bhatinda first, and thence his descendants migrated to Rao Siáná in the Malaudh iláqa, where the tribe now holds 10 or 12 villages.

The *Sekhs* had a similar origin to the Bhandhérs, and came to this district from some place in Patialá territory, Bhadaur it is said. Their villages are scattered all over the district.

The *Dhilons* (6,317) say that they came from the Mánjha in the reign of the Emperor Muhammad Sháh.

Minor gots of the Jats are—

Minor subdivisions—

Gandhu	...	...	...	...	4,964
Mán	...	...	...	...	4,296
Sandhu	...	...	...	...	4,258
Mángat	...	...	...	...	3,724
Chíma	...	...	...	...	3,008
Rathi	...	...	...	...	2,930

It would take up too much space to detail the tradition as to the origin of each of these. They are to be found scattered over the district, holding single villages or subdivisions of villages.

The Rájputs are undoubtedly the oldest of the agricultural tribes that now hold the district. Only 1,600 of them are Hindus, and these inhabit two or three villages in Samrála tahsíl. Mr. Walker writes: "It might perhaps be taken as good evidence of the demoralizing effect of the Muhammadan religion that the Hindu Rájput is very little inferior to the Jat as a cultivator. In the Bét of Samrála the most prosperous village belongs to them, the proprietors being free of debt and largely engaged in trade. The Muhammadan Rájput of this district possesses at least all the bad qualities generally ascribed to his tribe. He has a good physique, but this is about all that can be said in his favour. As a cultivator he is useless, being indolent and apathetic to a degree. He will never do an honest day's work if he can help it, and spends every penny that he can borrow. His village is generally a picture of slovenly cultivation; and he will tell one that this is because it is not his proper business to follow the plough, and because his women are secluded. If possible he will rent his land to some one else, and never fails to try to spend more than his neighbour on a marriage celebration, regardless of the fact that it is certain ruin to him. His women are said to be quite incapable of managing their household affairs, and the Hindu shop-keeper in a Rájput village makes a fortune in a very short time,

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Dhálíwál.

Bhandhérs.

Sekhs.

Dhilon.

The Rajputs; their character; subdivisions of the tribe.

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The Rajputs ; their
character ;
subdivisions of the
tribe.

at first, it is said, by cheating the women, and then by getting the men into his books. If a Rájput does take to service, it is only in a half-hearted way ; and he will on the slightest excuse throw it up and return to his village. In fact the Muhammadan Rájput of this district has, as far as I know, no redeeming points in his character, and is a perfectly useless member of society. I may mention that at the Regular Settlement the Muhammadan Rájput villages were treated very leniently, and in many cases pay half or one-third less than their neighbours ; but this moderation appears to have had no other effect than to encourage further extravagance. The great feature in a Rájput's character is, I think, a complete want of anything that could be so designated. He is the most vain and foolish of mortals, and can seldom give a reason for anything that he does. He is, as a matter of course, discontented ; but it would require a peculiar state of society to suit him. These remarks apply to the tribe as a whole ; but there is a daily increasing number of members of it in whose favour an exception should be made." The principal *gots* or subdivisions of the tribe are the *Ghorewáh* (4,256) in the east, and the *Manj* (5,680) in the west (Jagraon tahsil). The *Ghorewáh* Rájputs own a great number of villages along the Sutlej in this and the Jullundur district. They trace their descent from *Hawáhá*, brother of *Kachwáhá*, who came into the country in the time of Shaháb-ud-dín Ghori (1150 A.D.), and was allowed a grant of as much land as he could ride round in a day, hence the name. Others say he presented a *nazar* of a horse, and got the tract which his descendants now hold. Half a Rájput's time is taken up in listening to absurd stories of this sort over the village pipe, while he ought to be working in his fields. The *Manj* Rájputs own a good many villages in Jagraon Bét and uplands. They come from the south-west, their ancestor Cháchu leaving Farídkot and settling at Hatúr. From Hatúr the descendants of Cháchu founded several large villages, Andlu, Halwáráh, &c., in this district, and also crossed the Sutlej. The family of the Rais of Raikot is looked upon as the head of the *got* on this side of the river. These Rais at one time held a great part of the district under their sway, and a detailed account of the family will be given elsewhere. Other *gots* of the Rájputs are *Bhatti* (2,038), *Chauhán* (1,835), *Náru* (2,020), *Janohi*, &c.

Gújars.

The *Gújars* of this district are unable to give any distinct account of who they are or whence they came, but it appears pretty certain that they are a nomad race (*Gau-char*=Gújar) who moved from towards the hills in search of pasture, and gradually settled down along the river for the sake of the grazing. They now hold a number of villages in the Bét or low-lands, mostly in Ludhiána tahsil. About 100 years ago Sardár Sudha Singh and the Kákars, who held the Bét lands under Ludhiána, located them in villages ; and they have only since then taken to agriculture. The *Gújars* of this district are all Muhammadans. They are of good physique, tall and well made, but are said to be lacking in courage. Intellectually they are not strong ; and they are, as a rule, much too easy going and careless to get on in these times. As cultivators. they are not of the first class. though

superior to the Rájputés. They have a hereditary liking for cattle, especially that of other people ; and most of the Gújar villages contain men recognized by the police as criminals. They are as a tribe turbulent, discontented and lawless ; and gave a great deal of trouble in the Mutiny. Gújar women help their husbands in the fields. The principal subdivisions are *Gorsi* and *Chechi*, also *Kálas* and *Paswál*.

The *Aráíns* of the district appear to have worked their way up the Sutlej from the direction of Mooltan. They are also said to be *Kambohs* converted to Muhammadanism. It is very probable that they did come up the Sutlej, for they can be traced along its banks in the low-lands of Lahore and Ferozepore and half-way up the Ludhiána district ; but they are not to be found higher than the town of Ludhiána. They are probably a mixed race, gardeners by profession, who in some locality or other have formed themselves into a separate tribe and spread over the country. The *Aráíns* are all Muhammadans. They are generally small, wiry men, capable of a great deal of labour. As cultivators, they rival the Hindu Jats, but are inferior to the latter in intellect. An *Aráín* will support himself and his family on a very minute area of irrigated land, on which no one else could possibly exist ; but, as the owner of a large holding, he is less successful than the Jat, and does not seem to have the power of managing a large farm. All the members of his family assist the *Aráín* in his cultivation ; and the women sell the vegetables or exchange them for grain. The *Aráín* is a very quiet and inoffensive member of society, and does not appear to trouble himself about politics. The principal subdivisions in this district are *Ghalar*, *Ghalan*, *Jatáli*.

The *Awáns* are said to be a race of foreigners, who came with the first Muhammadan invaders from beyond the Indus. The tribe holds some 10 or 12 large villages round about Ludhiána situated in the low-lands and in the Dháia. Their number is understated in the Census, some having perhaps been returned as *Shékhs*. The *Awáns* are all Muhammadans. They are a very fine, powerful race of men, and are inferior only to the Hindu Jats in intellect and enterprise. They are very fair cultivators, but do not depend entirely on agriculture, and are always ready to turn their hands to anything. They are fond of service in the army, police, &c. ; and most of their villages can turn out a number of carts which are worked for hire. In the last Kabul war they made a great deal of money by carrying between Jhelum and Pesháwar, and some of the villages depend much more on their carts than on their fields. They are an extravagant race, and spend at least as much as they earn. The *Awáns* are very strict Muhammadans, and say their prayers regularly. Very many of them have received a religious education and are Maulvis. Their women are secluded. Their chief fault is quarrelsomeness, which has, as in the case of the Jats, developed under us into a love for litigation.

There are a few *Dogars* in the Bét. They resemble the Gújars, being of good physique, but wanting in intellect. As cultivators, they rank with the Gújars, and run them very close as thieves. Their women

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Tribes and Castes.
Gújars.

The *Aráíns*.

The *Awáns*.

Minor landowning tribes ; the *Dogars*.

- Chapter III, D.** work in the fields. There are one or two whole *Saiad* villages ; and the tribe holds shares in others scattered over the district. Those of **Tribes and Castes.** Taraf Saiadán, one of the subdivisions of Ludhiána, are respectable and well-to-do ; but, as a rule, the Saiads are poor cultivators, being much too lazy. There are a few *Sainís* (304) and *Kambohs* (951), the latter being Muhammadans ; also some *Banjárahs* (942) and *Lobánahts* (923), all in the Bét. The last two of these appear to have the same origin (said to be a Rájput one, as a matter of course) ; but they are now quite distinct. The Banjárahs are a somewhat superior tribe, but it is said that in this district the two tribes intermarry. They are both Hindús or Sikhs by religion ; and, besides agriculture, are engaged in carrying grain, &c., on bullocks ; and the Lobánahts in making ropes, brushes, &c., from *munj*. *Rúwats* own one village near Ludhiána, and number 1,807. They have certainly nothing in common with Rájputs, being the mildest of men, and first-rate agriculturists. The criminal classes of *Hárnís Báoriás*, *Gaunemárs*, are also land owners. The Hárnís were settled down in three or four villages in the east of the district by the Sikh chiefs who overthrew the Rais of Raikot ; and the others own each of them a village. It appears that these men have all been returned as Rájputs, for so they call themselves. An account of them will be found elsewhere in this volume.
- Saiads.**
- Miscellaneous.**
- Menials and artizan classes : Chamárs.** Next in point of numbers to the Jats are the *Chamárs* (59,655), who are returned as nearly one-tenth of the whole population of the district. These people are the most degraded of all classes except the *Chúhras* ; and their position in the village very nearly approaches to that of servitude. They are known as *begári* and are found attached to every village in the district, for the zamíndárs cannot get on without them. They eat the dead cattle, and are considered so unclean that a separate place is assigned for their residence. They are bound to perform certain tasks (*begár*) for the zamíndár, and receive certain allowances of grain and all carcases of cattle. They cannot change their place of abode, for a Chamár of one village would not be allowed to settle down in another. Further details as to their dues and services will be found elsewhere (page 100). They are all leather-workers, tanning the skins of the dead animals that are given them, and making buckets for the wells, bhístís' *maskaks* (water-bags), shoes, &c. They are paid for all new goods supplied, but repairs are included in their task. The Chamárs are not recognized as of any religion. They bury their dead.
- Chúhras.** *Chúhras* (18,525) are found mostly in the towns and in some villages where they are servants of the higher classes of Jats and of the Rájputs, or are village servants (*kamin*) for the purpose of summoning people (*bulári*).
- Tarkháns.** *Tarkháns* or carpenters have taken to agriculture, and own shares in several villages. Those who follow their hereditary occupation are to be found in nearly every village, for they are a necessary element in the agricultural community. The Tarkhán, though classed as a village menial (more properly an artizan), is a man of very superior intellect, and occupies a good social position. He can consequently make his own terms with the zamíndár, and moves

about as he likes. He does all sorts of carpenter's work, receiving a fixed allowance at harvest time for all repairs and the price of all new work. There is a large colony of Tarkhāns working as carpenters in Ludhiāna. These make carts, all sorts of furniture, boxes, &c.; and some of them have amassed great wealth, which they invest in land when they can. Many of them are also in service; and it is a proof of their good social position that Rām Singh, the Guru of the Kúkas, belongs to the tribe.

The *Lohārs* are also village servants, who do all the iron-work of the agriculturists, or they are settled down in the larger towns and follow their trade there.

The *Jhīnwār* is not necessary in most villages, for the Jat women usually fetch the water for domestic use themselves. He is to be found in the towns or in the Rājput and higher class Jat villages, where the women are secluded. His services are required everywhere in marriage and other celebrations.

The *Nāi* is found everywhere, and is a very important village servant. He is the barber, and is always employed in arranging betrothals, being sent as a *lāgi*, or go-between.

The *Julāhas* or weavers are scattered over the villages, where they weave the cotton thread of the zamīndārs into cloth (woollen blankets are woven by Chamārs or Chūhras who have taken to the profession). There is a large colony of these people in Ludhiāna.

The *Kumhārs* (brick-makers), *Mochís* (leather-workers), and *Chímbas* (washerman and cloth-stampers) reside mostly in the towns. The agriculturist generally make their own bricks for the wells, but go to the Kumhārs for water jars (*chālti*) and other utensils; and have an agreement by the harvest about these. The *Mirāsís* (5,489) are found all over the district, principally in the Rājput villages. They live by alms.

The *Kalāls* (1,955) might almost have been classed as agriculturists, for they are all either land-owners or in service, generally both. The Kapurthala Chief held a very large portion of this district under Mahārāja Ranjit Singh; and this has given the tribe a step in the social scale. They call themselves *Ahlúwālia* or *Neb*, never *Kalāl*, and are Sikhs. Some of them hold small jágirs, and they generally distinguish themselves in service. The *Pathāns* (3,629) are mostly confined to Ludhiāna, the refugees from Kabul; but an ancient colony of them hold the lands of Bahlolpur. The *Kashmírís* (2,492) are settled in the city of Ludhiāna.

Chapter III, E.

Village Communities and Tenures.

Tarkhāns.

Lohārs.

Jhīnwārs.

Nāis.

Julāhas.

Kumhārs. Mochís.
Chímbas.Miscellaneous
classes.

Village tenures.

SECTION E.—VILLAGE COMMUNITIES & TENURES.

Table No. XV shows the number of villages held in the various forms of tenure, as returned in Quinquennial Table XXXIII of the Administration Report for 1878-79. But the accuracy of the figures is more than doubtful. It is in many cases simply impossible to class a village satisfactorily under any one of the ordinarily recognised tenures; the primary division of rights between

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 ties and Tenures.
 Village tenures.

the main subdivisions of the village following one form, while the interior distribution among the several proprietors of each of these subdivisions follows another form, which itself often varies from one subdivision to another. The following figures show the classification adopted by Mr. Walker at the recent Settlement, while in the paragraphs which follow them will be found his remarks upon the figures:—

Tenure.	Villages.	Share- holders.	Acres.
Zamindaris held by individuals ..	5	5	1,627
Zamindari village communities ...	22	380	7,867
Pattidari do. do. ...	9	545	4,513
Bhayachara do. do. ...	47	7,428	55,640
Mixed or imperfect pattidari or bhayachara ...	819	88,347	812,166
Government waste ... { Forests	..	..	276
... { Other	..	..	78
TOTAL ...	901	96,705	882,157

"These figures show the forms of village tenures in the district according to the accepted definition of the terms *zamindari*, *bhayachara* and *pattidari*. But little information as to the real constitution of the villages is to be derived from this classification, if indeed it is not distinctly misleading. In the form of statement (see also paras. 103 and 104 of the 'Directions to Settlement Officers,' Barkley's Edition) I read that a *bhayachara* village is one 'in which possession is the measure of right in all lands,' but I believe that for *right* we ought to read liability; and that the distinction comes to be a mere question of the manner in which the assessment is distributed for the time being on shares. This makes a very material difference, for in numbers of villages, although the shares have become obsolete to this extent that they are not used for distributing the assessment, the village common land and the receipts from it are still divided according to them. Again, almost every village has got some area, however small, of common land, in the receipts of which the community participate, and this fact makes the tenure 'imperfect.'

"The purest form of the village community is that in which the proprietors are, or keep up the fiction of being, descended from a common ancestor; and of this type there are only a few villages in the district, belonging mostly to Rajputs. I have explained (Section D, page 83) the manner in which most of the Jat villages were founded by several families, which generally belonged to different *gots* or subdivisions. The land was in the first instance divided according to shares (called *hal* or plough) a number of these being assigned to each family according to strength. The *hal* differed according to locality, but was as much as it was estimated that a pair of oxen could plough. Under native rule revenue was realized in kind or by cash on the area of certain crops; but the people retained these customary shares and used them in the distribution of common receipts and in payment of fines, cesses, &c. The subject will be more fully discussed in the second part of this report; but I may state the result generally to be that under our rule, owing to improvements

in the land, transfers, &c., the shares have been generally abandoned as a measure of liability for Government revenue, but retained as a measure of right in the village common property and of liability for casual demands (*e.g.*, *malbah*). The native states around (Patiāla, Jhīnd, Nābha and Māler Kotla) have followed our example and substituted a cash demand for revenue taken in kind; but it is everywhere distributed on the shares (*halsāri*). It is only in the Bēt and in a very few Dhāia villages of this district that the people have of their own free-will adhered to the shares under our rule. There is no village that I know of in which the land was originally occupied piecemeal without a formal division according to shares. The original distribution is generally most elaborate, the whole area having been divided into blocks according to quality, and each sharer getting his portion in each block. Sometimes the land of each subdivision is separate, and there is then this same arrangement amongst the sharers inside of it. I should say, then, that the villages were all *pattidāri* (or *zamīndāri*) in their origin; but that in most the shares had fallen out of use for purposes of defining the liabilities of the sharers."

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ties and Tenures.

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The subdivisions of villages are *torafs* in some of the larger villages, *pattis* in most; and inside of these *thulās*. The proprietors of a *thulā* are generally of the same *got* and often the descendants of a common ancestor. Each *thulā* will be found divided into ploughs (*hal*), which may be either *pucka* or *kachcha* the former representing the original distribution of land, and the latter subsequent partition; but the size of the plough now merely depends on the number of sharers in the subdivision, and it may or may not be the same for the whole village. Thus the land of a village may be divided equally between two *pattis*, and subdivided inside one into 20 and inside the other into 25 ploughs.

Subdivisions.

Table No. XV shows the number of proprietors or shareholders and the gross area held in propriety under each of the main forms of tenure, and also gives details for large estates and for Government grants and similar tenures. The figures are taken from the Quinquennial Table prepared for the Administration Report of 1878-79. The accuracy of the figures is, however, exceedingly doubtful; indeed, land tenures assume so many and such complex forms in the Punjab that it is impossible to classify them successfully under a few general headings. The tables on the next page give the latest figures as ascertained at the Revised Settlement.

Proprietary tenures.

In most villages there are lands held by persons who are not members of the village community, who possess no share in the common lands, and who are called *mālikān qabzah*. Many of them hold small religious endowments only.

Table No. XVI shows the number of tenancy holdings and the gross area held under each of the main forms of tenancy as they stood in 1878-79, while Table No. XXI gives the current rent-rates of various kinds of land as returned in 1881-82. But the accuracy of both sets of figures is probably doubtful; indeed it is impossible to state general rent-rates which shall even approximately represent

Tenants and rent.

*Tenures held direct from Government.***Chapter III, E.****Village Commu-
nities and Tenures.**

Proprietary tenures.

NATURE OF TENURE.		No. of estates.	No. of villages.	No. of holders or shareholders	Gross area in acres.	Average area of each estate.	Average assessment of each estate	Revenue per acre.
I.—Zamindāri—								
Zamindāris paying Rs. 1 000 and under.	{ Held by individuals and families under ordinary law.	...	5	5	1,627	325	371	1-2-3
Proprietary cultivating communities paying in common.	{	...	22	380	7,857	357	277	0-12-5
II.—Village Communities not paying in common—								
(1) Pattidāri	{ In which the land and the revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance.	...	9	545	4,513	501	633	1-4-2
(2) Bhāyachāra	{ In which possession is the measure of right in all lands	...	47	7,428	55,640	1,184	1,485	1-4-2
(3) Mixed or imperfect Pattidāri or Bhāyachāra.	{ In which the lands are held partly in severalty and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severalty.	...	818	88,347	8,12,166	993	1,293	1-4-9
Government waste reserved or unassigned.	{ (a) Administered as forests under forest law.	2	..	...	277	138	...	...
	{ (b) Other lands	1	...	...	77	77	...	...
Total		3	918	99,705	8,82,157	118	...	1-4-2

Tenures not held direct from Government.

NATURE OF TENURE.		No. of holdings.	Area of land held.	Average area of holding.	Average cash rent of each holding.	Average rent per acre.
I.—Tenants with right of occupancy—				A. R. P.	Rs. A. P.	Rs. A. P.
Paying cash rents	(1) Paying only the amount of the Govern- ment revenue to the proprietors	3,669	16,844	4 2 14	5 5 0	1 2 6
	(2) Paying such amount <i>plus</i> a cash malik- āna	1,622	5,816	3 2 14	5 7 11	1 8 6
	(3) Paying at stated cash rates per acre	205	345	1 2 29	3 6 7	2 0 5
	(4) Paying lump sums (cash) for their holdings	591	1,649	2 3 6	6 2 7	2 3 4
Total paying rent in cash		6,087	24,654	4 0 8	6 5 4	1 9 0
Paying in kind.	(1) Paying by a stated share of the produce in kind.	84	744	8 3 17	...	...
	(2) Paying by a stated share of the produce <i>plus</i> a further cash contribu- tion.	583	3,888	6 1 12	...	...
	(3) Paying by a stated share of the produce <i>plus</i> a further cash contribu- tion.	430	555	1 1 7	...	...
	(4) Paying a fixed amount of grain for their holdings with or without a fur- ther cash contribu- tion.	22	85	3 3 18	10 6 7	2 11 1
	(5) Paying a fixed amount of grain for their holdings with or without a fur- ther cash contribu- tion.	86	728	8 1 34	2 7 3	0 4 8
	Total, paying rent in kind	1,205	5,800	4 3 5	...	...
Grand total of tenants with right of occupancy		7,292	30,454	4 0 29	...	...
II.—Tenants holding conditionally—						
III.—Tenants-at-will—						
(a) Paying in cash		19,335	45,977	2 1 20	...	...
(b) Paying in kind { $\frac{1}{2}$ produce and more		12,746	34,495	2 2 3	...	...
{ less than $\frac{1}{2}$ produce		12,215	35,093	2 3 19	...	...
(c) Paying in cash and partly in kind		316	1,220	3 3 1	...	...
IV.—Holders of service grants cultivating the land, held, i. e., parties enjoying freeholds from proprietors, being excused all revenue—						
(1) Sankala or Dharmarth		1,744	2,314	1 1 35	...	...
(2) Conditional on service		143	139	0 3 35	...	...

the letting value of land throughout a whole district. The figures collected at the Revised Settlement will be found in the appendices to Mr. Walker's report.

There are only two or three large *zamindari* estates in the district, and the cultivation is almost entirely by the proprietors themselves. The settlement returns show 21 per cent. of the cultivated area as in the hands of tenants, but the greater part of this is held by men who own other land. The following are the proportions of the various classes of tenants :—

How held.	Per cent. of cultivation.
With occupancy rights	5
At will by proprietors or by tenants who have occupancy rights in other lands ...	9
At will by tenants who have no such rights	7
Total ...	21

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ties and Tenures.
Tenants and rent.

When a proprietor has any spare land more than he can work, this is either let to a co-sharer who has not enough land of his own to support himself, or an agricultural partnership is entered into.

Rents are fixed for the year about June 15th (*Nimania*), but earlier and separately for cane and cotton. For the *Kharif* crops (cane, cotton, maize, charri, moth, &c.) a cash rate on the crop is almost invariably fixed by agreement, and paid when the crop is ripe or nearly so, not beforehand. The reason is that if the crop is a bad one a liberal owner will sometimes reduce the rate fixed. The rent is calculated on the local measure, which is the *kachcha bigah* in the east, and the *ghumáo* or *kanál* in Jagraon and in most of the Bét. The rent-rate is mentioned, and the amount to be paid is calculated on the known area of the field; or the ground is paced or measured with a rope. The cash rent only covers the harvest, except that sometimes a rate is fixed so as to include the wheat following the maize; but more generally a separate rent in kind is taken for the wheat. The land returns to the owner at once when the crop has been cut. Thus land is rented at the *Nimania* for *charri* only; and the crop is taken. The proprietor must arrange for the winter ploughings necessary for the crop of next year, and he disposes of the land at once with this view; but the agreement has really effect from the next *Nimania*, seven or eight months after, and would be for the *Rabi* after that. In some villages, where the land is all much of one quality and the cultivation not very good (Muhammadan Rájput villages mostly), the proprietors will rent their land at so much all round on the *kachcha bigah*. This saves trouble, to escape which is the great object in life of a Muhammadan land-owner. A field is often rented for the cultivation of a single crop like cane, charri, &c.; but, where a number of fields are rented in one holding (*láhna*), the rent takes the form of this general rate per bigah, or *zabti* rates are agreed on for certain crops and kind rents for others, the tenant raising the crops that suit him best; or again a lump sum (*chakota*) is fixed to be paid by the

Zabti or crop rents.

Bigah rates.

Rents for holdings.

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ties and Tenures.
 Rents in kind.

tenant as rent of the holding for the whole year, he having liberty to raise what crop he likes. A holding rented in any of these ways will consist of all sorts of land.

Rents in kind are taken for the Rabi crops, rarely for cotton, and almost never for other Kharif crops, except in Jagraon tahsil. The straw is divided as well as the grain, and the proprietor takes a somewhat smaller proportion of the former than of the latter. The usual rates are half to two-fifths for unirrigated lands with one-third of the straw; and for irrigated, one-third of grain and one-fourth straw. *Batái*, or subdivision of produce, is a very simple process in this district. The tenant cuts and threshes the grain; and on an appointed day the proprietor comes to the heap for his share. The grain is measured out in a large earthenware jar (called *chátí* or *máp*) which holds about a *kachcha* maund (17 seers *pucka*), and the straw in arm-fulls. The proprietor then removes his share. If a faqir or other holy man appears, he gets a small portion, of which no account is taken. It says much for the intelligence of the people how entirely they have broken away from the very elaborate system of *batái* which prevailed forty years ago when the revenue was taken partly in kind. There are none of the elaborate calculations of allowances to the various menials, &c., such as are kept up in less advanced parts of the province; and there are also none of the superstitious observances attending the division of the produce. Perhaps the most important feature of all is the absence of the special weighman of the shop-keeping class. The allowances to menials will presently be described.

Cash rents.

The statistics of rent are contained in Appendices II.A. and B. of the Settlement Report; and from these it will be seen that the proportion of the total area of the land paying proper cash rents is only 5 per cent. of the cultivation, that is after deducting from the areas shown in Appendix II.A. land of which the rent is for various reasons merely nominal. These competition cash rents are shown in Appendix II.B. The former rulers of the country took a large share of their revenue at rates on crops; and this revenue, which was a full rent really, has survived in the cash rates now paid for land taken for the cultivation of cane, maize, cotton and other crops. There are three methods of fixing cash rents. A portion of a proprietary holding may be let for the year at so much on the local standard of area without regard to the crops to be grown; or the area may be approximately known to both parties and a lump sum (called *chakota* or *chakáwa*) be agreed on without actual measurement. In the first case the area is subsequently paced out, and the rent of the whole calculated at the rate agreed on, a third party being called in to settle disputes if necessary. The third method is where a field or area is rented for the purpose of growing a certain crop, and a rent on the crop is charged at a certain rate on the local standard of measure, the area and rent being subsequently determined when the crop is standing. Between ordinary agriculturists, where the transactions are very small, one or other of these three forms of rent is adopted; but where there are large proprietors, such as the Kheri Sardárs in Samrála tahsil, the old Sikh method of collecting revenue is still

followed, and the tenant agrees to pay at crop rates on whatever he grows in the kharif harvest.

The rates of rent prevailing throughout the district do not differ very much. Irrigated land will everywhere in the Dhāia pay from Rs. 2 to 3 on the *kachcha* bigah, i.e., from Rs 9-8 to 14 an acre. The rent of unirrigated land of ordinary quality is from Rs. 1 to 1-8 a *kachcha* bigah (Rs. 4-12 to 7 an acre); but the poorer soils run as low as 12 annas and 8 annas. The proportion of these poorer soils is small, and on the average unirrigated land does not pay less than Re. 1 a *kachcha* bigah, or nearly Rs. 5 an acre. In the Bét the first two kinds of cash rent are almost unknown.

The crops which ordinarily pay *zabti* or cash rents are cane, maize, cotton, in the irrigated uplands, and the first of these in the unirrigated lands of the Upper Bét; and in the unirrigated lands of the Dhāia the autumn pulses and millets, whether sown for fodder or with a view to grain also. The lowest rate paid for sugarcane land is Rs. 2-8 a *kachcha* bigah, and this is only in the Bét. The average in the Dhāia is about Rs. 3 or 3-8, while in a few large villages it runs as high as Rs. 5. The general rate is about Rs. 14 or 15 an acre. This rent is for the use of the land during one and a half years usually, as not more than one crop can be got into the two years besides the cane. The rates for maize and cotton are from Rs. 1-8 to 3 a *kachcha* bigah, and average about Rs. 10 an acre in the Dhāia, and something less in the Bét. For *charri* and the mixed fodder crops of the kharif Re. 1 a *kachcha* bigah is usually paid, unless the soil is poor, when the rate is as low as eight annas or twelve annas; but on the other hand it may go as high as Rs. 1-8. The usual rent for *rousti* land is not much under Rs. 5 an acre. In the Bét lands below Ludhiāna, where there is some very fine market gardening, land will rent as high as Rs. 20 to 30 an acre; but the above rates are those usually paid throughout the district.

The area returned as paying rents in kind is 10 per cent. of the whole cultivation. The rates prevailing are as follows:—In the Bét one-half of the grain is taken without a share of the straw; and sometimes two-fifths where the land is irrigated; but even in the case of well lands the proprietor ordinarily realizes at the higher rate. A share of the straw is taken in a few villages. In the Dhāia the rate for irrigated lands is one-third of the grain with one-fourth of the straw; and for unirrigated lands one-half of the grain is taken as often as two-fifths, very seldom one-third; while the proprietor's share of the straw varies from one-third to a quarter. In addition to his proper share of the produce, the proprietor takes also a portion under the name of *kharch* or 'expenses.' In places, too, the proprietor takes from the tenant a portion of the revenue demand as well as a share of the produce.

Mr. Walker thus discusses the average size of holdings: "With the Assessment Reports I submitted statements showing the average size of the proprietary and cultivating holdings, but these, as I pointed out, are quite unreliable. The holdings were of the *Khatauni* (register of tenancy holdings); and calculations based on them are necessarily valueless. Thus A and B hold land separately, having divided it and also have some in common. A has mortgaged a

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Crop rates.

Rates of rent in
kind.Size of proprietary
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ties and Tenures.Size of proprietary
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holdings.

couple of fields to two other proprietors and B may have done the same. Each of these facts is shown as a separate holding. Or, again, a proprietor cultivates his own land, and has also rented land from another; and he would appear both as a proprietor and as a tenant. I have now done my best to find out what the actual size of the holdings in the different tahsils is. I have taken the total of all land cultivated by proprietors, whether it is their own or that of other proprietors, and divided this by the total number of proprietors whose names appear in the *Khewat*. Only those are shown as tenants who do not own land. The result is as follows:—

NAME OF TAHSIL.	KHEWATDARS.		OCCUPANCY TENANTS.		TENANTS-AT-WILL.	
	No.	Area culti- vated.	No.	Area culti- vated.	No.	Area culti- vated.
Samrāla ...	22,617	136,300	1,059	4,160	2,389	6,816
Ludhiāna ...	51,308	331,496	3,903	11,582	6,209	21,447
Jagraon ...	26,608	211,509	1,855	11,352	1,491	6,759
Total ...	100,533	679,305	6,817	27,094	10,088	35,022

Thus the average area to every cultivating proprietor, who is liable for Government revenue is, for the whole district, six acres. In Jagraon tahsil it is eight acres; and in the *Jangal Circle* of Ludhiāna, nine or ten. Every *khewatdār* is not necessarily the head of a family, for he may be unmarried; but he is in every case an owner of land in his own right."

Tribal and family
customs.

The tribal and family customs regulating inheritance, marriage, adoption, and the like, will be found abstracted in great detail in Chapter X of Mr. Walker's Settlement Report.

Riverain custom.

The Sutlej forms the northern boundary of the district; and no other river touches it. The custom as between the villages of this and the Hoshiārpur and Jullundur district is: (i) in most of the villages of the Samrāla tahsil and a few of those of Ludhiāna, that of fixed boundaries (called *Thākbustana* or *Hadbastana*), by which each village is entitled to have its area made up to the limits of the settlement map (of 1850), whether the land lies on its own or the opposite side of the river; (ii) elsewhere in Ludhiāna and in the Jagraon tahsil the deep stream (*Dhārkālān*) rule prevails with two modifications: (a) land bodily transferred by change in the course of the river (*Rukhkgirdāna*) and susceptible of identification belongs to the original proprietors; (b) where the whole area of a village has gone by diluvion the proprietors are entitled to recover land reappearing on the same side, according to the limits of the Settlement Map. When an island (*mand*) appears between two villages on opposite sides, if the custom is that of fixed boundaries, each village is entitled to have its area made up according to the map; and if there is anything over, the surplus is divided between the two villages in proportion to their settlement area, otherwise the deep stream rule decides the question of ownership. The deep stream is determined in cases of doubt by calculating roughly the volume of water in the different channels; or, in the last resort, by letting a boat float down the river and seeing which channel it takes.

As between two villages on the same side of the river the boundary in newly recovered land is determined by the Settlement map; and when the land is outside of this, either by drawing a straight line from the last boundary pillar to the river, or by producing the line of the last two pillars.

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ties and Tenures.
Riverain custom.

Inside villages the customs vary a good deal. In some it is the rule for the co-sharers to make up the annual losses of suffering sharers from village common or from land held in severalty; and in this case new land becomes village common as a matter of course. Elsewhere the custom is that of fixed fields, according to the Settlement map, each proprietor bearing his own losses, and being entitled to land that reappears on the site of his fields, only such area as has been recovered beyond the original limits of the village becoming village common.

As to occupancy tenants there is no clearly defined rule; but their claim to recover their rights in land reappearing after diluvion is generally recognized (a), when they hold a *share* of the village, as they generally do; (b), when the rule is that of fixed fields and the proprietor from whom they hold recovers his ownership.

Regarding the appointment of zaildárs, the Settlement Officer writes as follows.

Zaildárs.

"It was feared that the introduction of the system might interfere with the semblance of local authority, still preserved by some of the larger jágirdárs. The jágirs of Malaudh and Ladhran were, therefore, excluded from its operation. In the rest of the district the zails were arranged within the tahsils, so far as was possible, according to tribes; although in many places it was found quite impossible to group together villages so as more than partially to secure this object. The Bét tract is in the hands of a Muhammadan population, belonging to the Rájput, Gújar, Jat, Aráin and Awán tribes; but the villages of these are, as a rule, so mixed up that, although it may be said that one or other of the tribes predominates in a certain portion of the lowlands, we could not arrange any single zail so as to consist entirely of villages of the same tribe. Muhammadan Rájputs and Jats own most of the Samrála and Upper Ludhiána Bét tracts; while in the lower part of Ludhiána and in Jagraon the Gújars are in a great majority. Amongst the Jats of the uplands it was in like manner impossible, except in the case of the Garewáls, whose villages are grouped together to the south-west of Ludhiána, to arrange the zails by *gots*.

The peculiar disadvantages under which the system appears to labour in Ludhiána is the weakness of the tribal organization; for I know of no district where want of union amongst the agricultural population is more marked. If villages lie in groups, each belonging to one tribe or *got*, it is certain that one or two men will be regarded as the heads of the tribe or *got*; but in Ludhiána there is very little tribal feeling anywhere, and almost every single Lambardár in each zail was a candidate for the appointment.

The following is a complete list of zails and zaildárs of the district:—

Chapter III, E.
Village Communi-
ties and Tenures.
 Zaildárs.

1	2	3	4	5	6
Number.	Tahsil.	Zails. Name.	No. of villages.	Land Revenue (with Māf, &c.)	Prevailing tribes (M.=Muhamma- dan, H.=Hindu.)
1	SAMRAHA.	Bahloipur ...	27	16,199	M. Jats and Rājputa.
2		Sainsowāl ...	42	17,255	Ditto.
3		Poawat ...	15	18,682	Ditto with a few H. Jats, &c
4		Kutālā ...	15	17,170	H. Jats and Rājputa.
5		Jāgīr Ladhra ...	25	24,853	(No zail.)
6		Utalān ...	13	15,774	H. Jats.
7		Malmazra ...	14	21,555	Ditto.
8		Bhari ...	11	20,805	Ditto.
9		Kheri ...	17	17,635	Ditto.
10		Lohār Mazra ...	15	18,577	Ditto.
11		Rahāwan ...	12	20,527	H. Jats and M. Rājputa.
12		Saloudi ...	7	16,210	H. Jats.
13		Rapālon ...	18	17,231	Ditto.
14		Mohanpur ...	13	19,535	Ditto.
15		Aikolāha ...	16	19,172	Ditto.
16		Isru ...	11	18,480	Ditto.
17		Jabbomazra (Jāgīr villages.) ...	9	11,597	Ditto.
18	LUDHIANA.	Baliahwāl ...	25	16,954	M. Jats, Rājputa, Gújars, &c.
19		Katāni Kalān ...	18	17,666	H. Jats.
20		Choupta ...	24	19,255	M. Rājputa, Gújars, &c.
21		Mattewāra ...	27	18,038	Ditto.
22		Bholapur ...	17	20,318	Ditto H. Jats.
23		Gil ...	12	17,745	H. Jats.
24		Sāhnewāl ...	15	19,919	Ditto.
25		Umedpur ...	15	17,765	Ditto.
26		Lalton ...	12	21,686	Ditto (Garewāl got).
27		Badowāl ...	16	21,593	H. Jats (Garewāl).
28		Sunet ...	12	19,221	H. Jats.
29		Ludhiāna ...	34	18,057	M. Gújars, Rājputa and miscella- neous classes.
30		Kāsabād ...	30	21,515	Awāns.
31		Nurrur ...	25	16,975	M. Gújars, &c.
32		Dākha ...	12	17,839	H. Jats, &c.
33		Raipur ...	9	19,540	H. Jats (Garewāl).
34		Shānkar ...	14	21,237	H. Jats.
35		Butāri ...	6	8,057	Jats, Kalals, &c.
36	JAGRAON.	Ghungrána ...	13	17,474	H. Jats.
37		Dhurkot ...	11	18,875	Ditto.
38		Pakhowāl ...	11	17,355	Ditto.
39		Tājpur ...	14	18,360	Ditto and M. Rājputa.
40		Latalā ...	9	18,833	H. Jats.
41		Bhundri ...	22	15,928	M. Gújars, Arāins, Rājputa.
42		Sidhwan ...	21	20,408	H. Jats, Arāins, Gújars.
43		Ghālib Kalān ...	13	19,880	H. Jats, &c.
44		Sawadi khās ...	16	20,820	H. Jats.
45		Mandiāni ...	12	16,960	Ditto.
46		Hāns ...	9	17,550	Ditto.
47		Jagraon ...	14	21,075	Ditto Gújars, Rājputa, &c.
48		Kāonki ...	10	16,625	H. Jats.
49		Akhāra ...	7	15,425	Ditto.
50		Mallah ...	5	13,735	Ditto.
51		Lakha ...	5	19,550	Ditto.
52		Baesian ...	10	18,850	Ditto.
53		Raikot ...	10	22,490	Ditto and M. Rājputa, &c.
54		Akālgarh ...	11	19,750	H. Jats and others.
55		Mohi ...	9	21,175	H. Jats.

In addition to the zaildars it was at first proposed to appoint Ala lambardars in the larger villages; but for this was substituted, after some discussion, a scheme for granting, to selected lambardars, *ináms*, to be deducted from the revenue. The total of these *ináms* was not to exceed $\frac{1}{4}$ per cent. of the assessment. As far as possible the *ináms* were confined to villages with more than three lambardars. The *ináms* were of three classes—Rs. 20, 25 and 30 per annum, and averaged Rs. 25, which gave two to each zail.

The total number of lambardars is 2,747, and the average remuneration per annum Rs. 20. Before the time of the Regular Settlement the lambardars were a strong body, well paid and selected as really leading members of the agricultural class; but in the inquiry which was then made their number was more than doubled. Even yet the pay is generally very fair in the Dháia; but in many Bét villages lambardars receive as little as Rs. 2 to 3 a year, and there is often very little to distinguish them from the rest of the proprietary body. Not one in a hundred keeps a horse or pony; and their sole idea of duty to Government is that they must realise the revenue and their own allowance. In fact till recently the first of these duties was relegated to the patwari, who regularly accompanied the lambardars when taking the money to the tahsil, in case that it might be misappropriated. It is, perhaps, a sign of progress that the authority of the lambardars, such as it was, is daily diminishing; but a further weakening is likely to lead to much administrative inconvenience. In many villages the sharers, though perfectly able to pay their revenue, neglect to do so, well knowing that the lambardar will get into trouble, and the latter has at best a very clumsy remedy against defaulters.

The *kharpach* deserves mention as a growth of our system. He is a sharer who has acquired a reputation for cleverness and for knowing law; and has probably sharpened his wits by hanging about our Courts. He is invariably in opposition to the lambardars and to Government; but his advice is taken on all matters by individuals or by the whole community. Any one wishing to institute a case consults him; and he is always ready to suggest to a sharer some cause of quarrel with his neighbour. The *kharpach* is in fact the village mischief-maker, and everybody's business is his.

The *tolah* or *modi* corresponds to the *dharwái* of the Mánjha country. Under Sikh rule, and until very recently, he was the patwari in addition to his other numerous vocations. Besides his private business of shop-keeper, he managed the *malbah* or village fund, and made out what were accepted as partwari's annual papers for Government.

In the following paragraphs will be found some account of the village artisans and menials (*kamins*), and the allowances made to them. Under former rulers when the revenue was realized in kind a small portion of the whole produce was first set apart for the *kamins* and for some servants of the chief, and the remainder was divided between the cultivator and the *Sarkar* in the proportion fixed. With a cash demand this custom disappeared, and the *kamins* now receive their allowances from the cultivating

Chapter III, B.

Village Communities and Tenures.
Zamindariináms.The lambardars or
village headmen.*Kharpach.*The *tolah* or
weighmen.*Kamins* or village
menials.

Chapter III, E.
Village Communi-
ties and Tenures.
Kamins or village
 menials.

proprietors in a lump at each harvest. There is none of the elaborate division of the produce such as is customary in other districts; and, even when a tenant pays his rent in kind, no deduction is made from the common heap; but each party gives his *kamins* from his own house a fixed amount of produce and not a share of the whole. The tendency is for the cultivators to alter their agreements with the *kamins*, and to cut the allowances down. In fact these allowances are generally ceasing to be determined by custom. The calculations made by the Settlement Officer gave the result, that of the whole produce from one-twentieth to one-sixteenth was given to the *kamins*, and the deduction that should be made on this account from the total produce was fixed at $7\frac{1}{2}$ per cent. It may be open to doubt whether any deduction at all was necessary, for a tenant paying in kind has to give to his *kamins* a portion of the share left him by the proprietor; but it was not considered advisable to depart here again from the usual procedure. In places proprietors have taken advantage of the old custom and realize a proportion (1 or 2 seers in the maund) of the total produce under the name of *kharch* over and above the share of the produce agreed on; but this, though nominally for servants and *kamins*, is really only an addition to the proprietor's share.

Chamár.

The most numerous of the village menial class are the *Chamárs*, of whom some account has been given in Section D (page 88). These people have to perform certain tasks, of which the principal is the repair of all leather appliances (well buckets, seed-drills, &c.) and of the cultivators' shoes; and they have also to repair the village gates, to collect grass and keep watch when any officer of Government comes, to carry bundles to the next village on such occasions, &c. &c. They have also to remove all dead cattle, and they are entitled to the carcasses and skins of these. The *Chamárs* are paid full price for all new goods, shoes, buckets, &c.; and occasionally cultivate a piece of land, either alone or in partnership with a zamindár. They generally receive as menials an allowance of grain per plough (about 30 seers); also some cotton and *gúr*. These allowances are also, though rarely, made on the total yield (about one seer per maund). The *Chamár* families are generally divided amongst the sharers, say one to every ten houses of the latter.

Takhán.

The *Takhán* or carpenter in return for an allowance at harvest time has to execute all repairs, and also to make small things, like goads, yokes, &c., but for new ploughs, pitchforks and other implements of the sort he is paid in cash, the cultivator supplying the wood. He has a good deal of work about the wells, and a great deal at the presses *belna* in villages where sugarcane is grown.

Lohár.

The *Lohár* or blacksmith makes the plough-share, the cultivator supplying the iron, and he also repairs all iron-work. Sometimes one man does the work of carpenter and blacksmith. The *Takhán* and *Lohár* receive allowances either on the plough or on the total produce (from a quarter seer to one seer per maund).

Chúhra.

Where there are *Chúhras* they are only used for calling the people together or giving notice to any one who is wanted *bulári*. The allowance is small, generally one-sixteenth to a quarter seer in the maund.

The *Jhīncar*, or waterman, has to supply baskets for the cane press, and gets a very small allowance (about one-sixteenth to one-eighth seer per maund). He also supplies water at marriages, but is paid for this specially.

The *Nāi* or barber performs personal services to the cultivator, cuts his nails, shaves him, &c., &c., and receives much the same as the *Jhīncar*.

The plough (*hal*) on which these allowances are generally calculated is a variable measure; but, roughly speaking, where all the *kamīns* receive a full allowance, they absorb one-twentieth to one-sixteenth of the gross produce. This is according to the administration papers of the villages; but the practice is really different. Under the Sikhs, when the revenue was taken in kind by the servants of the ruler, a heap was set apart for the village servants (two to two-and-a-half seers in the maund); and this was divided amongst them according to their recognized shares. But with our fixed assessment this system could not continue, except where a proprietor takes rent in kind from a tenant. There has been a tendency to break up the constitution of the village in regard to these menials, the action being mostly on the part of the proprietors, for the *kamīns* are generally much too degraded to wish for any change, and are in the power of the proprietors completely, not having even the option of changing their abode when too hard pressed. The result has been that the proprietors attempt to cut down the allowances, and make new terms with the *kamīns*. In many administration papers a condition has been recorded that the relation of the proprietors to the *kamīns* is liable to annual revision, and in some villages there are no customary allowances or services at all; and, when a cultivator has any work to be done by one of the class, he pays for it in grain or cash. In many villages too the proprietor will not now allow the *Chamār* to have the skins, as the price of leather has risen very high in late years, and money is to be made out of them.

The subject of the employment of field labour other than that of the proprietors or tenants themselves, is thus noticed in answers furnished by the District Officer and inserted in the Famine Report of 1879 (page 714):—

"The field labourers are never exactly hired. They are paid by a share of the produce, usually one-fourth, and they are employed by the season. They are generally of the menial classes—sweepers, chamārs, weavers, blacksmiths, carpenters, &c. When they cannot get field-work, they exercise their handicrafts. They were in the 1868 Census 10 per cent. of the non-cultivating population. In the isolated instances in which men are hired by the month, they are paid Rs. 3 per month. Their condition is distinctly inferior to that of the self-cultivating poorer agriculturists. They usually get an advance from the zamindārs, which is deducted in grain at the harvests. They get petty loans from the village banīās, but as they have not the security of the land to offer, the banīās do not trust them with much."

A *būia kāmā* is a farm labourer kept by a proprietor, generally because the latter cannot for some reason work his

Chapter III, E.

Village Communities and Tenures.

Jhīncar.*Nāi*.

Agricultural labourers.

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Village Communi-
ties and Tenures.

plough himself. The *bítia káma* gets Re. 1 to Re. 1-8 a month, and his food and clothes from the proprietor; but has no interest in the produce.

The wages of labour prevailing at different periods are shown in Table No. XXVII, though the figures refer to the labour market of towns rather than to that of villages.

**Agricultural
partnership.**

If a proprietor does not care to rent his land, he will enter into a partnership with some cultivator (called a *sánjhi*). The *sánjhi* may contribute only his labour, in which case he is called *ji-de-sánjhi*; or he may also contribute cattle, when he is called *sánjhi* simply. The share of produce that the *sánjhi* receives would depend on what he contributes, each man and each beast counting as a unit in the calculation. Thus a proprietor may have three bullocks and the *sánjhi* one; and they would together make up two ploughs in unirrigated lands. The *sánjhi* would in this case get two out of six shares in the produce or one-third; and the proprietor would probably pay the revenue and supply the seed, &c.; but this is a matter of agreement, and the terms vary a good deal. Sometimes several proprietors club together for the better working of their well land, jointly irrigating the fields of each in turn.

**Petty village
grantees.**

The last two lines of Table No. XVI show the number of persons holding service grants from the village, and the area so held. But the figures refer only to land held free of revenue, which is by no means the only form which these grants assume. Sometimes the land is leased to the grantee at a favourable rent, or on condition of payment of revenue only; sometimes the owner cultivates and pays the revenue, making over the produce to the grantee; while occasionally the grant consists of the rights of property in the land, which, subject to the usual incidents, such as responsibility for revenue and the like, vest in the person performing certain specified services at such time and for so long as he performs them. These grants are most commonly made to village menials and watchmen on condition of or in payment for services rendered, to attendants at temples, mosques, shrines, or village rest-houses so long as they perform the duties of the post, and for maintenance of monasteries, holy men, teachers at religious schools, and the like.

**Common village
property : income
and expenditure :
village cesses.**

In every village there is a common fund (*malbah*) managed by the lambardárs. There were formerly various sources from which money came into this :—

(1). Receipts from sale of produce of the common land, and rents paid for cultivation of it.

(2). *Atráfi*, or a cess levied on the houses of the artisans and sometimes of the shop-keepers, at the rate generally of Re. 1 per annum on each shop or house.

(3). *Dharat* or *tuláfi*. Whenever grain was sold in the village it was weighed by the *tolah*, who charged at a certain rate on each transaction, and credited a portion of these receipts to the village fund.

(4). There has always been a good deal of expenditure from the common fund, principally on feeding faqirs and other holy men; and, as this generally exceeds the receipts, a collection has to be made from the sharers. The second and third sources of income have

survived in only a few villages ; and with the spread of cultivation the first does not remain in many. In the eastern villages the funds are invariably raised in the following way. The lambardárs have the power of incurring expenditure as necessary, getting the money from some appointed shop, and the account is made up once or twice a year, the sharers being entitled to have it explained to them. The amount spent is then collected by a *bách* or contribution from the sharers. In some villages the proprietors have allowed the lambardárs to realize a small precentage on the land revenue for this purpose, and the latter are then responsible for the whole expenditure. In a few villages to the west (Jagraon and Pakhowál) *atráfi* is still realized ; but the proprietors generally prefer to divide the receipts, keeping the public account separate in the manner described above. When considerable sums are now and again realized by the sale of wood on the common land, this same course is followed. In the Jangal villages, the whole village expenses are paid by *dharat*, or fees on sales of grain, the transactions in those parts being much more considerable than in the eastern villages. Disputes about the village fund are constant, and the endeavour is everywhere to deprive the lambardárs of the power to spend money for any purpose. The sharers are usually put up by some knowing one to question this right, and the management of the common fund becomes a standing cause of quarrel.

Table No. XXXII gives statistics of sales and mortgages of land ; Tables Nos. XXXIII and XXXIIIA show the operations of the Registration Department ; and Table No. XXXIX the extent of civil litigation. But the statistics of transfers of land are exceedingly imperfect ; the prices quoted are very generally fictitious ; and any figures which we possess afford but little real indication of the economical position of the landholders of the district. The subject is discussed at some length at pages 422 ff. of the Famine Report of 1879, where actual figures are given for instances selected as typical. In forwarding these figures, the Settlement Officer wrote as follows.

“ The district has a river frontage on the Sutlej of about 60 miles, and stretches to the south of it some 20 or 30. The alluvial tract between the river and high land is more extensive than in most districts, reaching inland 5 or 6 miles. It is inhabited by Muhammadans of the Rájput and Gújar tribes, who form about one-sixth of the agricultural population of the whole district. The upland tract is almost entirely in the hands of Jats, principally Hindús, who form about two-thirds of the whole agricultural population of the district. The difference in the condition of the inhabitants of these two tracts is so very marked that it will be better to give a separate account of each.

“ The Bét or alluvial tract has a most fertile soil, requiring very little exertion from man for its cultivation. If the overflow from the river fail, the Kharif harvest may be bad ; but it is not probable that there will be a failure of rain in the same year, and a good Rabi crop makes up the deficiency. The water is so near the surface that it can be raised with little exertion in any amount for irrigation. What

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ties and Tenures.
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 of the proprietors.

the people dread is excess of flood from the river rather than drought. Notwithstanding these advantages, the Rájput and Gújars who own and cultivate the land are in a very bad condition. Naturally indolent and thriftless, they are the worst cultivators and the most reckless spenders of any money that comes into their hands. They have no idea of regulating their expenditure by their means, and are consequently in the power of the money-lenders, who are too willing to make advances on the security of the land. I believe that all the owners in this tract are in debt, and most of them deeply. They have no property except the jewelry of their women and a few cattle. Their houses are squalid; they have none but earthenware dishes, seldom any store of grain; and they are generally dependent for their daily food on their money-lenders, whose terms preclude the chance of any part of the produce remaining in their hands. The only cause of their indebtedness, I may add, is their thriftlessness. Special allowance was made for their habits in fixing the Government assessment, which is comparatively light.

"These remarks apply to the owners of the land. The condition of the tenants is for several reasons much superior. Rent is generally paid in kind, so that the distinction between tenants-at-will and occupancy tenants is not marked. Of late years, owing to the influx of grain principally, there has been a great demand for labour in and about the town of Ludhiána; and men have been drawn away largely from cultivation. A tenant can earn three to eight annas a day by manual labour, and thus add largely to his means of subsistence. The Rájput proprietors, who are themselves much above working as coolies, are really at the mercy of their tenants. I have heard of many cases in which a tenant with occupancy rights, holding of a Rájput proprietor, cultivates a small portion only of his land; the proprietor receiving as his share of the produce what is worth actually less than the Government assessment of the holding.

"I can give no reliable figures as to the amount of indebtedness of the various classes at this stage of the Settlement. All of the proprietors in the Bét are probably in debt, most of them deeply, and very few of the tenants.

"Turning to the Dhaia or upland tract of the district, we see a very different picture. The country stretches to the south, a clear and fertile plain unbroken by a single stream. The soil is light and capable of yielding the richest staples. In the eastern part of the district the water is near the surface, and a large proportion of the land is irrigated; while towards the west the soil becomes lighter and more mixed with sand, and irrigation rarer. But the people (Jats) are much the same everywhere. They make the best use of the land that their knowledge admits of, and are most frugal in their mode of life, eating whatever grain is in season, and spending little money in extravagance. The people are almost entirely cultivating owners. The tenants that there are consist principally of (1) owners cultivating the land of other owners; (2) village menials.

"In the small populous portion of the district adjoining Umballa the land is mostly irrigated, and the conditions are a little different. But in the greater portion, roughly speaking all to the south and west of the railway, the proportion of land irrigated is small. The soil,

though light and sandy, is most fertile ; and in a good year the supply of grain from a holding is much more than sufficient for the support of the household. The surplus is either stored or sold, and the proceeds laid away or lent. If there is a scanty rainfall, the people are not at a loss. What generally happens is this. There is no fodder for the cattle (as there is no land left for grazing in the whole district), and the cows and buffaloes are sold for almost nothing, or die. The men of the family leave the other members to subsist as they can on the store of grain or money hoarded, and go to seek work elsewhere. Few zamíndárs' houses in the district are without a cart ; and the men, yoking their bullocks, not now required for agriculture, into this, go off to Lahore, Pesháwar and Delhi, conveying goods for hire. In a few months they return with earnings sufficient to live over the bad harvest.

"The seasons have been particularly good recently, and the high price of grain has brought a good deal of money into the agriculturists' hands. Some of them speak of being in debt ; but there are very few indeed who owe more than a couple of good harvests will pay off. The debts they refer to are temporary, and the creditor is generally a brother proprietor. In very few villages is there a professional money-lender. The houses testify by their outward appearance to the prosperity of the people. Brass dishes are always to be found in them, and there is generally a store of grain and some money hoarded. The women all wear silver jewelry. Most houses have two or three cows or buffalo cows, and something is made by selling the young stock or the *ghi*.

"The custom in this tract is for a tenant, invariably in the case of occupancy tenants, and usually in the case of tenants-at-will, to pay a consolidated rent, that is, the Government demand and something over. This system does not appear to work so well for the tenants, who are not generally men of sufficient means to bear the burden of a bad year ; and debt is not uncommon amongst them.

"In conclusion, I should say that the condition of the agricultural population was most flourishing, except in the lands along the river. The owners in that tract are mostly indebted, many whole villages being mortgaged. Among the Jat owners the amount of debt is very small. I regret that I can give no figures at present as to the amount of indebtedness. Occupancy tenants hold less than 5 per cent. of the whole cultivation. They are well off in the low-lands, and not so prosperous in the higher lands. On the whole I should not say that they were generally in debt. Tenants-at-will hold about 20 per cent. of the cultivated land ; but a large proportion of these have also land of their own, or are village servants, having other means of eking out a livelihood. Tenants depending entirely for support on their holdings do not form a great part of the agricultural community. This class is, as a rule, free from debt."

SECTION F.—LEADING FAMILIES.

At pages 253 to 272 of Griffin's *Punjab Rájás* will be found an account of the *Bhadaur* Chiefship, and of the manner in which the

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Leading Families.
Poverty or wealth
of the proprietors.

Phulkíán families ;
Bhadaur Chief.

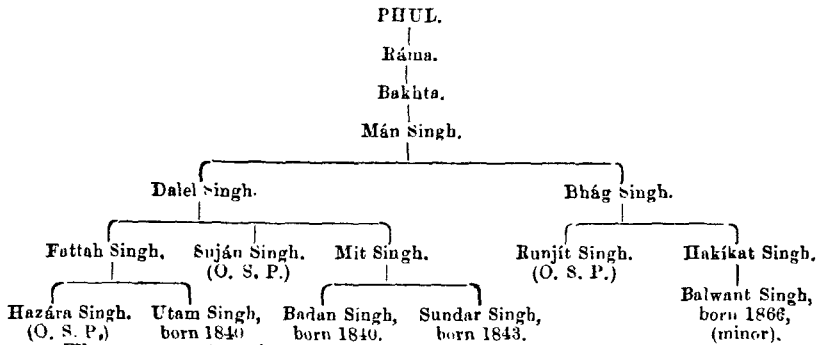
Chapter III, F.
Leading Families.

Phulkián families :
 Bhadaur Chief.

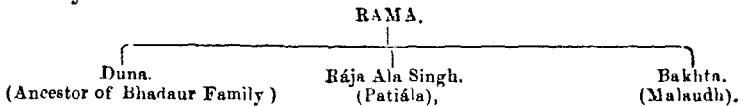
Patiála claims over it were rejected on their merits in 1855. The estate was a portion of this and of the Ferozepore districts, the Ludhiána villages being in the Pakhowál tahsil, till the year 1858, when the whole jágir was transferred to Patiála, the supremacy being allowed by favour of the British Government and not by right. It is not necessary under these circumstances to do more than mention the family. Sardár Atar Singh resides principally at Ludhiána, where he has built a magnificent house, and has opened a public library. His services in the cause of learning are too well known to require to be noticed here; and he has acquired a great amount of local influence.

Malaudh family.

The leading family of the district is that of *Malaudh*, a branch of the Phulkián stock, of whom mention will also be found at pages 273—276 of the “Rájas.” It may be well to repeat the pedigree here, bringing it up to date :—



The sons of Ráma who founded families were in order of seniority.



Ala Singh and Bakhta left Bhadaur (which had been founded by Ráma) to Duna as the eldest brother, and went to seek their fortunes elsewhere about the year A.D. 1720. Bakhta settled a few miles east of Bhadaur in the village of Dhapáli, where he had connections, till he was called in by a Jat of the name of Sahna, who had attempted to found the village which still bears his name, but was pressed by the neighbouring villages. Bakhta built a rude fort which was called Kot Bakhta, and made this his head-quarters; but the name of Sahna has stuck to the village, which still has a large fort belonging to the family. Mán Singh, the son of Bakhta, conquered the Malaudh *iláqa* from the Máler Kotla Afgháns about the year 1750 A.D. This was the period of activity of the Cis-Sutlej Sikhs against the Muhammadans, which culminated in the fall of Sirhind in 1863. Mán Singh died leaving an extensive estate to his two sons, Dalel Singh and Bhág Singh, who quarrelled about the division of this. The dispute was referred to Sardár Chúhar Singh of Bhadaur; and the decision then given has established the rule of succession in the family. The elder son got two-thirds,

and the younger, one-third ; and it is according to these proportions that all subsequent distributions of the *jágir* have been made within the various branches. There have never as yet been more than two sons to succeed in any branch. The Malaudh family maintained a position of independence, the relationship to the *Patíála Rájás* giving it immunity from the attacks of its neighbours. It came under our protection with the other *Cis-Sutlej* Chiefs at the beginning of the century. When the Ludhiána district was formed out of the territories annexed in 1846, the Malaudh estates were included in it ; but the *jágir* was maintained in its entirety as the family had not been compromised in the struggle of 1845. The *jágirdárs* were allowed to continue collections from the cultivators till 1850, when a cash assessment was fixed for the villages of the *jágir*. The family, like all other *Cis-Sutlej* chiefs, except the six treated as independent, was deprived of all powers ; and its local influence may be said to have almost ceased, for the *Jats*, who make up the population of the villages, have little respect for any one who cannot display authority over them. In 1860 the representatives of the three main branches were invested with magisterial powers, to be exercised within the local limits of their *jágirs* ; and this measure has done much to resuscitate the influence of the family, and has placed it in a much better position with regard to the people, who up to 1846 were as much its subjects as the villages of the *Patíála State* now are of the *Mahárája*. The value of the *jágir*, as recently assessed, is Rs. 85,077, and it is thus distributed between the four members of the family :—

			Rs.
(1).	Sardár Utam Singh ...	...	43,136
(2).	Do. Badan Singh ...	...	15,782
(3).	Do. Sundar Singh ...	...	7,792
(4).	Do. Balwant Singh ...	...	18,367

The family, besides enjoying these revenues, also owns a good deal of *bir*, or land reserved by the chief for grazing, firewood, hunting, &c., as well as all holdings of such proprietors as absconded on the introduction of a cash assessment or subsequently. Some of the *birs* are of considerable extent, and are still covered with a growth of wood. The villages of the *jágir* were distributed between the other *Sardárs* before annexation ; and in 1878 between Sardár Badan Singh and Sardar Sundar Singh.

(1). Sardár Utam Singh, the head of the family, lives in Ramgárh (near Malaudh), where there is a large fort built by his father, Sardár Fattah Singh. He has also the fine old fort at Sahna, built by Chaudhri Bakhta ; but this he seldom visits. Sardár Utam Singh has the powers of a magistrate of the second class, and civil powers in cases up to Rs. 300 value.

(2 & 3). Sardár Mit Singh had two forts, a very large one at Malaudh and a smaller one at Pakhoke. The former was assigned to Sardár Badan Singh, who resides in it, and exercises the same criminal and civil powers over the whole estate belonging to his branch as Sardár Badan Singh does in his share. Sardár Mit Singh lent his best assistance in the Mutiny, supplying horsemen and footmen to the extent of his ability. For this he was rewarded by the perpetual remission of half of his commutation money ; and, while

Chapter III, F.

Leading Families.

Malaudh family.

Chapter III, F.**Leading Families.**

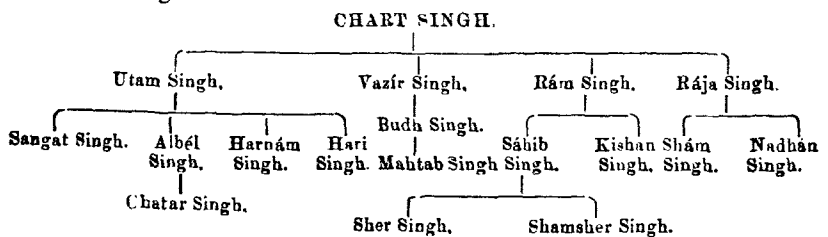
Malaudh family.

the other branches pay two annas in the rupee of their revenue, his descendants have to pay only one anna. Sardār Sundar Singh resides at Pakhoke.

(4). Sardār Hakikat Singh died in 1875, and the estate has since been under the management of the Court of Wards, his son, Sardār Balwant Singh, being at the Wards School, Umballa, a young gentleman of 16 or 17 years.

Family of Ladhran.

The next jāgīr in importance to Malaudh is that of *Ladhran*. The ancestor of this family, Jai Singh, was a Gurm Jat of Karanke Dhirke near Atāri in the Amritsar district. He was a member of the Nishānawālā confederacy; and in the scramble for territory which followed the capture of Sirhind in 1763 A.D. secured a piece of territory lying between Ludhiāna and Samrāla with 27 villages, and seven others in the Kharar tahsil of Umballa. Jai Singh gave his brother, Nahr Singh, one of the former villages, Palmazra, which the descendants of the latter still hold. Jai Singh had two sons, Chart Singh and Kharak Singh, the latter of whom was a noted robber, and was allowed by his brother one village, Rānwān, which still belongs to his descendants. The rest of the territory went to Chart Singh, who in A.D. 1809, accepted British protection. There was a dispute with Patialā as to the Kharar villages, which ended in the Ladhran family getting four out of seven. The territory in Ludhiāna was small; and the relations between the family and the Nābha State appear to have been rather doubtful. At pages 392-394 of the Punjab Rājas will be found an account of the claim to supremacy set up by Nābha, and the decision of the Government of India on it. Although the Ladhran Sardārs, like others of the Nishānawālā group, were at times in actual opposition to Nābha, there can be no doubt that they gradually became to some extent dependent on that State. After the campaign of 1845-46 the Ladhran territory passed into our hands, and was included in the Ludhiāna district, the jāgīr being maintained to the family. The descendants of Chart Singh are very numerous; and the jāgīr, which is worth Rs. 24,000 in all, is becoming more and more subdivided. One or two of the family have taken to service, Sardārs Hari Singh and Albēl Singh being Rissaldārs in the 12th and 13th Bengal Cavalry respectively; but most of them prefer to eat the bread of idleness. It is likely that in another generation or two the shares held by many members of the family will be insufficient for their maintenance. The pedigree of Chart Singh's descendants now alive is as follows:—



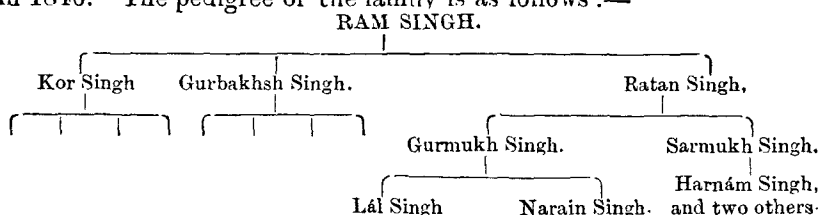
The rule of succession is *chundavand*, i.e., the estate is partitioned according to the number of wives of the deceased, the

children of each wife dividing a share between them equally. Mahtab Singh, Shám Singh and Nadhán Singh have still very fair incomes. The family also own landed property, one whole village and shares in several more, and some very fine houses at Ladhan, where they all reside.

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Leading Families.

Other existing jágirs in the Samrála tahsíl are: first, *Kotla Baála*. The founder of this family was Rai Singh, who came from the Amritsar district in Sambat 1916; and on the fall of Sirhind secured four villages, Badla, Kotla Badla, Bhari and Saidpur. The family, like others in this tahsíl, maintained their independence in the midst of their more powerful neighbours; but it is probable that all of them would eventually have been absorbed by the Phulkíán Chiefs or by Lahore but for our interference. The villages came to us when the rest of the country was annexed in 1846. The pedigree of the family is as follows:—

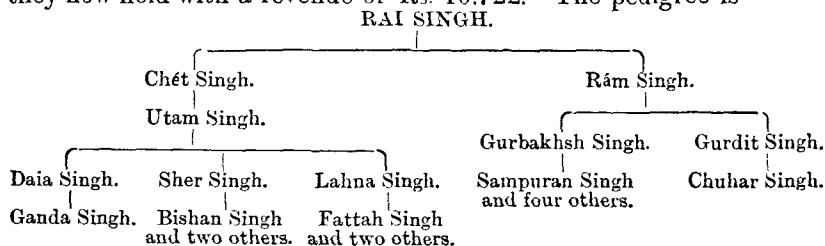
Other jágirs in
Samrála tahsíl :
Kotla Badla.



The descendants of Kor Singh and Gurbakhsh Singh hold Badla and Kotla Badla; but they are too numerous to mention. The other branch is much better off; and Lál Singh is a man of some means, and has a good deal of influence. The whole jágir is only worth Rs. 7,611 per annum.

The founders of the *Jabu Mazra* family were Rai Singh and Rám Singh, Jats (*got Kang*), from Amritsar. About A.D. 1863 they secured 16 villages to the south-west of Khanna; but were exposed to constant attacks from Patiála and the Kapúrthala Chiefs, who finally annexed and divided the whole estate. The Sardárs complained to the Resident at Umballa, and eight villages were restored to the family. These they now hold with a revenue of Rs. 10,722. The pedigree is—

Jabu Mazra.



There are two branches—one (Rám Singh's) residing at Jabu Mazra; and the other (Chét Singh's) at Dhíru Mazra. There is little to distinguish these men from the Jats around them, except their extravagance, and not one of them is in service. Ganda Singh and Chuhar Singh are the heads of the families at present.

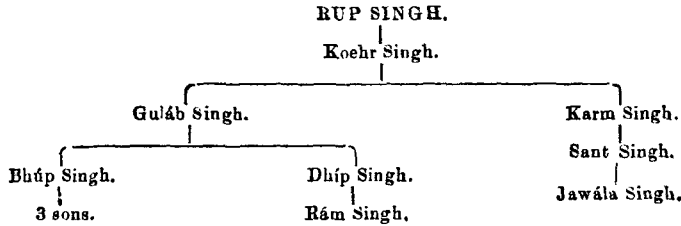
Kotla Ajner, &c.

The *Kotla Ajner* family have a jágir of four villages acquired by the ancestor of the present holders, a Mánjha Jat, subject to the Ahlúwália Chief. The lands came to us by annexation with the

Chapter III, F.

Kotla Ajner, &c.

other Kapúρθala territory in 1846 ; and the jágír was confirmed to the family, half to be held in perpetuity. The revenue is Rs. 4,132, of which the members of the family now receive half. The pedigree is—



This family is of no importance at all ; and none of the members are in service. Other jágírs of less note are :—

Nishánawálá ; holding four villages in shares with Government (Rapálon, &c.). The revenue of the jágírdárs is Rs. 2,343, which is divided amongst six or seven families.

Sontiwálá ; holding three villages in shares with Government, and having an income of Rs. 5,231.

Shamspur ; two villages with income to the jágírdárs of Rs. 2,587.

Sáloudi ; one village (shared) with an income to jágírdárs of Rs. 1,703.

These are four communities of jágírdárs, descendants of old Sikh confederacies. The Bhái of Bágrián and the Dhín Mulánáh (Umballa) Sardárs have each a village in jágír.

Extinct or decayed
families : Sodhis
of Máchiwára.

Mention has been made in Chapter II of the various minor chiefs who held the tahsíl at the time of annexation. Such of these as were driven across the Sutlej and have no further interest for us here need not be noticed ; but there are one or two whose families have since become extinct, or who, though losing their possessions after the Sutlej campaign, maintained their local connection. The Sodhis of Máchiwára held two or three villages in the neighbourhood of that town, and a masonry fort in it ; but the jágír was confiscated for their conduct in 1845. A representative of the family still resides in Máchiwára and owns a little land ; but has no position.

Kákar family.

There were a good many branches of the Kákar family, which came from the Jullundur Doáb. One branch took possession of several villages about Bahlolpur ; but was spoiled by Mahárája Ranjít Singh, who, however, restored some of their possessions in jágír. For the conduct of the family in the war of 1845 the greater part of the jágír was confiscated, and the rest lapsed by escheat shortly after. The only legitimate survivor at present is a female, who holds the family fort at Kakrálá.

Khanna jágír.

There was a large jágír held at the time of annexation by Sardárni Daián Kaur of Khanna, the daughter of Dasaundha Singh, a Mánjha Jat, who had established himself at the same time as the other jágírdárs from across the Sutlej. He was the servant of Tára Singh Ghaiba referred to in Chap. II. Daián Kaur was the widow of a son of the Rája of Jínd ; and was continued by us in the possession of the jágír of her father's villages till her death without issue in 1850, when the jágír lapsed. She had

a large fort at Khanna. The jágír consisted of seventeen villages with a jama of Rs. 30,217.

The ancestor of the Kheri Sardárs, Nand Singh, was a Jat who came from the Mánjha to assist in the capture of Sirhind; and afterwards established his power over a very fertile piece of country in the south-east corner of the tahsíl. This was then only partly settled by Muhammadans and others, many of whom deserted their lands; and to Nand Singh is due the founding of most of the villages of the Kheri ilāqa, which is now the richest and most highly assessed portion of the district. The family maintained an independent position till they were absorbed by us in 1846. The jágír was continued to Sardár Basant Singh, who was succeeded by his son Hari Singh. The latter died without issue in 1866 and the jágír then lapsed. Sardárni Nihál Kaur, widow of Hari Singh, and two other female relatives, Ratan Kaur and Sáhíb Kaur, enjoy considerable cash pensions, and Nihál Kaur has a life interest in the estate of Hari Singh which is very large, consisting of shares in a great many villages, and considerable areas of *bir* land. The Sardárni is a sister of Sardár Badan Singh of Malaudh.

Besides the Malaudh family, there are one or two others which hold smaller jágírs in the Ludhiána tahsíl. The *Khosa* family of Jats belong really to Bankandi in Ferozepore district. They hold three or four villages in shares with the Malaudh family. Their revenue is Rs. 3,353.

There are two families of Kalál jágírdárs at *Butádhri* and *Pláns*, who hold the villages given them by the Ahlúwália Chief. Their income is Rs. 2,506.

The Bhái of *Bágrián* has been already mentioned in the preceding paragraph. He has a jágír of four villages in this district with a revenue of Rs. 6,061, as an endowment of his *Langar* or alms-house

The Bhái of *Arnauli*, who has a jágír in Umballa, holds one village (revenue Rs. 1,800) in this tahsíl.

Of the *Kákars* who held the Ludhiána Bét at the end of the last century there is one representative, who resides in Báranhára, and is in receipt of a pension; while an adoptive grandson of Sudha Singh, Gil, also gets an allowance and lives at Mángat.

The children of Maulvi Rajab Ali, the well-known Mir Munshi of the Lahore Board of Administration, reside in Jagraon, where they have very fine houses; and they hold two villages of this tahsíl with a revenue of Rs. 3,092 in jágír. The founder of the family was Muhammad Zafar, a Saiad, who settled in the neighbourhood of Jagraon under the Emperor Muhammad Sháh, and got a grant of some villages round Talwandi Kalán. His descendants lost their possessions when the Sikhs took the country from the Rais. Rajab Ali subsequently recovered the jágír of two villages.

Chapter III, F.

Leading Families.

Kheri jágír.

Minor jágírs of
Ludhiána tahsíl;

Khosa Jágír.

Háns.

Bágrián.

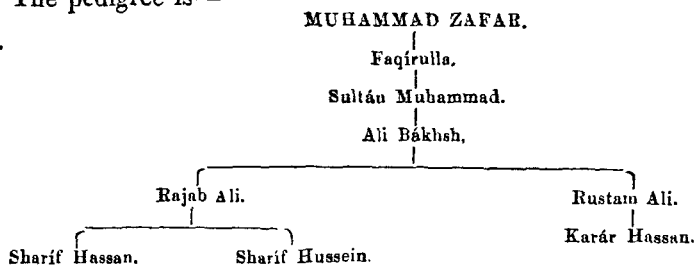
Bhái of Arnauli.

Jagraon tahsíl:
The family of
Rajab Ali.

Chapter III, F. The pedigree is—

Leading Families.

Jagraon tahsil :
The family of
Rajab Ali.



None of the present generation have taken service. The tomb of Faqirulla still stands in Talwandi. There are Sodhi families in Mallah, Bhamipur and elsewhere, holding petty jāgirs which are gradually lapsing ; and Jāt families in Rājuánah and Tughal ; but these do not deserve mention.

The Ráís of Ráekot.

The *Ráís of Ráekot* played such an important part in the history of this district that it will be well to give some of the details connected with the family. They belong to the *Manj got* or subdivision of the Rájpút tribe ; and the ancestor of the Ráís, Rána Mokal, is said to have come from Bhatanír (or Jesalmír), and to have settled in what is now Farídkot territory. Fourth in descent from him was Tulsi Dás, who became a Muhammadan in the reign of the Emperor Ghiás-ud-dín Ghori, the family chronicle says, that is about the middle of the 12th century (the same period as that to which the Ghorewáh Rájpúts of the east ascribe their arrival in the part of the country now held by them), and was called Shekh Cháchu. His sons, Bharu and Lapál, came to Határ, a large village in the Jagraon tahsil, where they appear to have lived by plunder under the shade of an importunate Panwár Rájpút, called Udho, the circumstance being recorded in the popular tradition “ Kháun píun Bharu Rái : Pakara jána Udho Panwár,” which means that Bharu got the plunder, and Udho the blows. Finally Bharu made himself master of Határ, while Lapál settled in the adjoining Sháhjahánpur, which his descendants still own. Seventh in descent from Bharu was Kalha I, who took service with a Delhi Emperor called Alá ud-din, perhaps the last of the Saiad dynasty, at all events in the beginning of the 15th century. Kalha founded Talwandi, to which place the family moved ; and obtained an assignment of the *málpuzári* of villages in the neighbourhood, for which he had to pay Rs. 1,25,000 of revenue, and also the title of Rái. The family maintained its position as a feudatory of the empire (*zamíndár* or *mustájir*) under the Lodís and Mughals for several generations, and one of the Ráís is said by the family chronicle to have been put to death for refusing a daughter in marriage to the Emperor Akbar. On the decline of the Mughal empire from the beginning of the 18th century the Ráís became involved in disputes with the Governor of Sirhind ; and Rái Kalha III, who appears to have been a ruler of very great ability, extended his power up to Ludhiána, which passed into his hands a few years before the capture of Sirhind by the Sikhs in the manner described in Chapter II. After that event he established independent power over the whole of the Jagraon and the greater part of Ludhiána tahsils, and also a large portion of the Ferozepore district.

The family was on at least equal terms with the Pathán rulers of Máler Kōtla and of the Phulkian Chiefs, with the latter of whom their relations were very friendly on the whole. It was in the time of Rái Ahmad, successor of Kalha III, that Ráekot was built; and many other towns and villages, amongst them Jagraon, owe their origin to the family, whose rule appears to have been very mild. Rái Kalha III was much the ablest of the Ráis; and under him the family reached the height of its power. He was followed by his son Ahmad, who ruled only a short time. In 1779 A.D. Rái Aliás, a minor, succeeded, and the affairs of the State were managed by two Gújars, called Roshau and Ahmad, the latter of whom asserted his independence at Jagraon, but was expelled. It was at this time that the Sikhs from across the Sutlej commenced their attacks under the Bedís, and Roshan was killed in an engagement with them. The Bedis got temporary possession of Ludhiána, and some of the country about; but Patiala and other Cis-Sutlej powers took up the cause of the Ráis; and the Bedis were expelled. In 1802, Rái Aliás was accidentally killed while hunting near Jagraon, and there were left of the family only two women—Núr-ul-nisa, his mother, and Bhágbhari, his widow. In 1806 Runjít Singh made his first expedition into this part of the country; and without a struggle dispossessed the Ráis of all their possessions, save two or three villages which he allowed for their maintenance. On annexation of the country by us, this jágir was continued to Bhágbhari till her death in 1854, when it lapsed. The representatives of the family now left are Imám Bakhsh, son of Bhágbhari's brother, and Ahmad Khán, another distant relation of the last Rái. The former of these Bhágbhari adopted, and he receives a pension of Rs. 200 per mensem for his life. Both have considerable possessions, Ahmad Khán and his brother owning two whole villages, besides their share in the ancestral lands in Talwandi and Ráekot. The houses belonging to the family in Ráekot and Talwandi are in the hands of these gentlemen, but with Hatur they have now no connection.

Some mention should be made of the political refugees and pensioners, who followed us from Afghánistán in 1842, and had Ludhiána assigned to them as a place of residence. The family and dependants of Sháh Shúja have resided here since our withdrawal from Cabul in 1842. Sháhzáda Sháhpur is the son of Sháh Shúja, and was proclaimed Amír on his father's death; but he enjoyed the dignity for only a few days. Another of the family; Sháhzáda Nádir is an Honorary Magistrate, and several of the rising generation have entered our service in various capacities. The family altogether receive Rs. 1,815 per mensem in political pensions. The family of Abdul Rahmán Khán, the Nawáb of Jhajjar; executed in 1857, were sent here after the Mutiny, and have since resided, drawing pensions which aggregate Rs. 2,300. There are three sons of Abdul Rahmán and an uncle, Ali Muhammad, who appears to be the leading man of the family. Saleh Muhammad Khán, who came with us from Cabul in 1842, was in receipt of a pension of Rs. 1,000 per mensem, and his son has succeeded to half

Chapter III, F.
Leading Families
The Ráis of Ráekot.

Refugees in
Ludhiána.

Family of Sháh
Shúja-ul-Mulk.

Jhajjar Nawáb's
family.

Chapter III, F. of it. Another Cabul pensioner of note was Muhammad Hassan
Leading Families. Khán, who also distinguished himself in the Mutiny. He had a pen-
 sion of Rs. 800, and his family have now about Rs. 300 per mensem.
Other pensioners. The well-known Mohan Lál (Agha Sáhí), Hindu, Christian and
 Muhammadan, lived for many years here, and has left some descen-
 dants of various religions.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

SECTION A.—AGRICULTURE AND ARBORICULTURE.

Table No. XIV gives general figures for cultivation and irrigation, and for Government waste land ; while the rainfall is shown in Tables Nos. III and IIIA and B. Table No. XVII shows statistics of Government estates, and Table No. XVIII of forests. Table No. XX gives the areas under the principal staples, and Table No. XXI the average yield of each. Statistics of live-stock will be found in Table No. XXII. Further statistics are given under their various headings in the subsequent paragraphs of this chapter. Land tenures, tenants, and rent, the system of agricultural partnerships, and the employment of field labour, have already been noticed in Chapter III at pp. 89—93. The areas for soils, crops, irrigation, and the like, taken from the figures of the Revised Settlement, are given below under the respective headings.

The total annual fall of rain and the manner in which it is distributed throughout the year are shown in Tables III, IIIA, IIIB ; while some mention of the seasons as they affect the staple food-grains has been made in Section B of Chapter III (page 55). An agricultural calendar will be found below at page 124.

The agricultural year begins with the *Nimánia*, which is the first of the half monthly fasts of the Hindús, and falls about the 15th June. Lands are rented and accounts cleared up by this date, and generally a new start made for the year. Most of the land has been enjoying a rest of two or three months, the exceptions being where sugarcane, some of the cotton, and patches of tobacco and vegetables round the wells occupy portions of it. The monsoon breaks from ten to twenty days after the *Nimánia*, towards the end of the month of Hár ; and agricultural operations commence at once with the sowing of the various autumn crops, except the cane and cotton which are already in the ground. Falls of rain at intervals during the months of July-September bring the autumn harvest to maturity ; and in September the final ploughings for sowing the Rabi crops (the land has been carefully prepared before) commence. From the middle of September to the end of October the Rabi sowings go on, and from the end of October to the middle of November the Kharif grain crops are reaped, and the cotton pickings begin. This period of two months (15th September to 15th November) is much the busiest time for the cultivator. If the rainfall has been good, the Rabi sowings are completed early in November ; but, if the rains have ceased too early, and there is not a sufficient amount of moisture for the sowings, they go on into December, and a late shower in October or November is then of the greatest use. The benefits of a fall at this time are celebrated in the popular couplet :—

Je mính píá Díwáli,
Jía phus, Jía háli.

Chapter IV, A.
Agriculture and
Arboriculture.
General statistics
of agriculture.

The Seasons,
Rainfall.

Chapter IV, A.

Agriculture and
Arboriculture.The Seasons.
Rainfall.Soils, natural and
artificial.

"With rain at the Dīwālī (end of October) a worthless fellow and a good cultivator are on equal terms." The Rabi crops are brought on by showers at two periods of the cold weather, about Christmas and towards the end of February; and reaping begins from the Baisākhi day (1st Baisākh, about April 15th), and the threshing is completed early in May. The sugarcane crop will not fit into the regular round of the farmer's year, and requires a special course of its own. It is sown in March, is cut and pressed after the middle of November, when the other Kharif harvesting and the Rabi sowing have been finished. Cotton is sown before the regular Kharif seed time, but it fits into the harvesting season, being picked at intervals during November-December.

The areas of the different kinds of soil which were separately recorded at the Settlement of 1880, are given on the next page as they stood in acres.

There are a number of soils recognized by the people, and with appropriate names. Our Regular Settlement introduced an elaborate classification, but the names used were known in the country before this. The land round a village site is referred to as *nīdī* because of its situation even in the Jangal villages, where there is no irrigation, and no soil so designated in the Government papers. *Dākhar*, applied to hard soils, is a term that has been in use from time immemorial in the district. In the uplands the Jat will divide his land into *senju* (irrigated) and *māru* (unirrigated). The latter he will, in speaking to a revenue officer, describe as *tibba* or *rét*, and sometimes as *budhi* if there is any appearance of sand to justify him; or, if the soil is a good even loam, he will tell you it is *pīlak*, which is a very coarse cakey soil, almost barren, and worse even than sand. If it is a good dark stiff soil, he will tell you it is *rarra*, *chīlan* or *kallar*. In a village with light soils the people will speak with apparent envy of the *dākhar* or clay loam of some other village, where the crops are so good; while the owners of this latter sort of soil sigh for the light lands (called *rēslī*) of their neighbours, which require little ploughing, and where the crops spring in the driest of years. In the Bēt the people speak of *mand* or flooded land; *rakar* or *kallar*, hard land yielding little; *passi*, or soil in which the sand is very near the surface.

Classification
adopted in former
and present
Settlements.

In the Regular Settlement the terms used were *nīdī* or land adjoining the site and heavily manured; *dākhar*, or hard clay soil; *rauslī* or ordinary loam; and *bhūr* or sand. These when distributed over the irrigated and unirrigated lands gave much too elaborate a classification. Thus in the Dhāia there were these classes of irrigated lands: *Nīdī chāhī*, *dākhar chāhī*, *rauslī chāhī*, *bhūr chāhī*, and finally *mohīta chāhī*, or unirrigated land capable of being watered by a well. Of the Settlement now in progress, Mr. Walker writes: "We have simplified the classification as far as we could, and have divided all lands for assessment purposes into—For the Dhāia: (1) *nīdī chāhī* or first-class irrigated land adjoining the site; (2) other well lands; (3) unirrigated *dākhar* or *rauslī*, i.e., loam; and (4) *bhūr* or sand. The first of these is an artificial class, but the division of unirrigated lands

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
DETAIL OF CULTIVATED AREA.																
Name of Tahsil	Total area.	Forest and Govern. pro- perty.	Uncul- turable.	CULTURABLE.			Cultivated.			Artificially irrigated.				Not artificially irrigated.		
				Cultu- rable waste.	Fallow.	Total.	Chabi (irrigated from wells) Dhāia.	Chabi Det.	Other irriga- tion.	Total.	Dofasli (1st class, 2nd class)	Ekfasli (2nd class)	Dhāia.		Total.	
													Bikhar and Roushi (Loam.)	Bhūr (sandy soil)		
Samrāla ...	1,84,580	2,760	17,280	14,138	1,461	1,45,970	10,802	29,349	350	144	40,645	13,172	5,943	55,947	27,363	1,02,325
Ludhiana ...	4,34,039	3,475	26,050	50,909	2,979	3,50,026	27,548	13,990	4,603	462	46,593	12,442	43,212	1,97,788	49,991	3,03,433
Jagraon ...	2,63,539	1,916	14,433	15,748	1,429	2,30,013	11,850	3,423	1,331	53	16,557	4,388	5,743	1,20,943	73,292	2,13,356
Total ...	8,82,107	8,151	58,343	80,795	5,869	7,29,009	50,200	46,762	6,274	659	1,09,895	30,002	54,898	3,83,678	1,50,536	6,19,114

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Agriculture and
Arboriculture.
Soils, natural and
artificial.

Chapter IV, A.**Agriculture and Arboriculture.**

Classification
adopted in former
and present
Settlement.

Comparison of the
various soils.

is a broad distinction, which the people themselves recognize. In the Bét no natural classification was attempted; but the lands were recorded as (1) manured and ordinarily bearing two crops (*dofasli*), and (2) unmanured, bearing one crop (*ekfasli*). These divisions are quite enough for practical purposes, and I do not think that anything would have been gained by attempting a more elaborate classification. In the uplands I began by having three classes of un-irrigated lands: clay loam (*dákhar*), sandy loam (*rausli*) and sand (*bhúr*); but further experience induced me to combine the first two. In the Bét there is great uniformity of soil. The only variations are when the land is newly formed (*mand*), where it lies low and is moist, or where the sand is near the surface (*passi*).

In the uplands it has been pointed out that the lighter soils prevail along the high bank and to the southwest of the district, while those of the eastern portions are much stiffer. Putting irrigation aside, the best soil is that which best suits the rainfall. A hard *dákhar* soil requires a great deal of rain,* which it generally gets for the Kharif harvest; but even this crop suffers from breaks in the rains. But the most critical period of the whole year is the time of the Rabi sowing. It is well known that a clay soil is capable of absorbing a much greater amount of moisture than a sandy one; but the former requires a very heavy rainfall to saturate it thoroughly, and dries much more easily, which is a very important point in this climate. *Dákhar* land requires to be thoroughly moist before ploughing is possible at all; and even if it has been reduced to a good tilth, and the rains have stopped too early, it will often be found to have lost all its moisture; and the cultivator knows he may spare his seed, for it will not germinate. If the moisture for sowings is good, and if the usual winter rains do not hold off and are also sufficient, the produce of *dákhar* will be much heavier than that of any other soil; but it is seldom that all these contingencies turn out as the cultivator would wish them to. On the other hand *rausli* or sandy loam is very safe for the rain crops. It requires little ploughing; and, though not capable of holding so much as *dákhar*, retains moisture in the subsoil much better. For weeks after *rausli* land has been ploughed and rolled preparatory to sowing, it will be found that there is good moisture at a few inches from the surface. Thus the best soil of the district for rain cultivation is the *rausli*, for it is never without a crop; while, even in the Samrála villages with a higher rainfall than elsewhere, we find that every fourth or fifth year a great part of the unirrigated land has no crop, because sowing was impossible for want of moisture. Many villages have both light and stiff soils in their area; and this is the most desirable combination. *Bhúr* is often called sand, but it is really a shifting and sandy soil on a good subsoil. *Bhúr* lands are poor, and the crops on them are in the most favourable years rather weak, but they have the advantages of needing almost no tillage and retaining what moisture they get most tenaciously in the subsoil. They suffer, however, in a year of heavy rainfall, and in the villages along the high bank the crop is generally best when that of the lands further inland is drying, or when no sowings have been possible.

In the Bét, *réh* or the saline efflorescence, due to impeded under-ground drainage, is common along the Budha Nála, but not elsewhere, except to the west of Ludhiána. In the neighbourhood of Núrpur barren patches will be found in the wheat fields; while further west, in the villages surrounding the plain of Aliwál, the surface is encrusted with it, the land being apparently water-logged, as is proved by the large area under water which has oozed out of the ground just below the high bank under Bharowál. Elsewhere in the Bét and in the harder soils of the Dháia, the land may show a tendency to saltiness, specially in drainage lines, this being evident from the failure of the crop to germinate; such soils are called *chilan* or *kallar*. *Pilak* is soil of a deep yellow colour, more or less unfruitful, and distinguishable by its tendency to cake. It appears to be composed of a large grained coarse sand, like gravel; and is the worst of all Dháia soils.

Table No. XIV gives details of irrigation. Further information will be found at pages 177 to 203 of Major Wace's Famine Report compiled in 1878. At that time 17 per cent. of the cultivation was irrigated from wells, 1 per cent. was flooded, and the remaining 82 per cent. was wholly dependent upon rain. The following figures show certain statistics regarding the wells then existing in the district:—

DEPTH TO WATER IN FEET.		COST IN RUPEES.		BULLOCKS PER WHEEL OR BUCKET.		Cost of Gear.	ACRES IRRIGATED PER WHEEL OR BUCKET.	
From	To	Masonry	Without masonry.	Number of Pairs	Cost in Rupees.		Spring.	Autumn.
..	20	70—150	5—10	4	50—60	10	6	9
20	30	200—300	...		60—80	10	10	6
30	40	300—450	...		80—130	10	10	6
40	60	450—550	...		100—200	10	10	6

The total number of wells was 11,418, of which 2,350 were unbricked. The soil areas, given above at page 117, show details of irrigation. The table on the next page is taken from the report on the Revised Settlement (1879-83).

Of the total cultivation of the district 15 per cent. is now returned as irrigated. The irrigation is at the present time entirely from wells. In the Bét the depth of the water below the surface is only eight to ten feet, and the lift very easy. The wells here are of two sorts. There are *kachcha* or temporary wells with a lining made of *pilchi*, the water being raised in an earthen pot suspended from the end of a lever or pole, the other end of which is heavily weighted. The pot is pulled down into the well by a string attached to that end of the pole; and the weight at the other end raises it when full to the surface, where it is emptied into the irrigating channel. This apparatus is called a *dhiinkali*, and has the advantage of only requiring one man to work it. There are also masonry wells of small diameter, worked like the

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CLASSIFIED STATEMENT OF MASONRY WELLS.													WATER CAPACITY OF WELLS.					
Name of Tahsil.	NIAL.				KHALSA.				BET.			TOTAL.			Average depth of wells in feet to the water.	Average cost of construction of a well.	Number of yoke of oxen required per bucket.	Average of crops irrigated annually by each well.
	One bucket.	Two buckets.	Three and four buckets.	Total.	One bucket.	Two buckets.	Three and four buckets.	Total.	One bucket.	Two buckets.	Three and four buckets.	Total.						
Samrala. ...	633	475	...	1,108	957	608	...	1,565	81	2	83	1,071	1,085	...	2,766	Rs. 100 to 350.	2 4	9 21
Ludhiana ...	1,422	683	38	2,153	648	262	5	915	745	3	748	2,945	958	43	3,846	100 to 600	2 4	11 19
Jagraon ...	430	439	81	950	148	107	25	280	121	4	125	698	551	106	1,355	100 to 550	2 4	20 21
Total ...	5,485	1,607	119	4,211	1,753	977	30	2,760	847	9	956	5,214	2,594	149	7,957	...	...	B. 12 D. 40

other wells of the district with a bucket raised by bullocks. At the Regular Settlement there appear to have been very few masonry wells, and people were content with the simpler *dhinkali*; but within the last 25 years nearly one thousand masonry wells have been sunk, mostly in the villages just below Ludhiána city and to the west, for irrigation is not required in Bét lands further east. The *dhinkali* is capable of watering only about an acre of land; and, although the Aráin cultivator can grow a great deal in this small area, he can do much more with cattle and a permanent well capable of watering six to seven acres; and the change is a decided advance. The Persian wheel is used in one or two villages in the Jagraon Bét, adjoining Ferozepore.

In the Dháia the wells are all of masonry. The water is raised by means of a rope and leather bucket (*láo, charsa*), worked by two pairs of bullocks alternately going down an inclined plane or run. The rope works over a wheel or pulley, raised a little above the well on a forked stick. To one end of the rope is attached the bucket, and the other is fixed to the yoke of the bullocks, which are driven down the run. When the bucket rises to the top, it is rested on the edge of a reservoir and emptied into it by a man standing there for the purpose, when the rope is unfastened from the yoke and the bucket allowed to descend into the well. Three or four men and two pairs of bullocks are required for one bucket, and can work for three or four hours at a stretch. For the continuous working of a single bucket-well four pairs of bullocks and six or eight men are necessary. With this complement it will go on for the whole day. Nearly half of the wells in the district have two buckets and two sets of gear completely separate, so that both are worked at the same time. These are much wider than the single bucket wells, being 11 or 12 feet in diameter (while the latter are generally 7 or 8), and cost more to construct. The usual cost is from Rs. 250 to Rs. 300 for a single, and from Rs. 400 to Rs. 500 for a double well. The compensation paid for wells destroyed by the Sirhind Canal in 1869 averaged between Rs. 400 and 500. Irrigation is also given in places (Bét and Dháia) from village tanks, the water being raised three or four feet to the level of the fields by means of a basket worked by two men with ropes; but this is only possible at certain times of the year when the tanks are full. The water is first run into a small well or reservoir (called *chuhi*), and thence raised by a basket (called *dal*) into the irrigation channel. The basket is lined with leather, and has two ropes attached to it, one passing under each side and coming out at the corners. Two men stand on opposite sides of the well holding the two ends of each rope, and raise the water in the basket.

The distance of the water from the surface and the depth of the water in the wells has been recorded for every village in the district. The result of this record is to show that beyond the influence of the river, which affects the water level to some distance from the high bank, the depth below the surface of the water in the wells diminishes as one goes from north-east to south-west in Samrála and the continuous part of the Ludhiána tahsil. This

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Spring level : variations in depth of the wells.

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Spring level :
variations in depth
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variation is most marked in Samrála, where it is from 42 or 43 feet in the villages to the south of Bahlolpur, to 30 feet at Ísru, and 27 feet in the detached villages to the south-west of this tahsil, and also about Malaudh (Ludhiána tahsil). In Ludhiána the variation is not so great, the recorded depth being not less than 35 feet in any of the villages about Pakhowál; while beyond our boundary the depth increases, till we reach 75 feet at Sahna, and upwards of 100 beyond it. In Jagraon there is no such fall of spring level; but the depth to the water is much the same as in all the eastern villages of that tahsil, while it increases towards the south-west, being upwards of 50 feet at Hatur in the south-west corner. Thus we have a spring level which approaches the surface in the eastern portion of the district to the distance of some 40 or 50 miles in the same direction as the slope of the country, and then gets deeper, till in some of the Jangal villages water for drinking purposes is raised with very great labour; while in the western portion of the district with the same slope there is a steady fall from the first.

Supply of water in
the wells.

The depth of water in the wells varies a good deal according to locality and season. It is generally twelve or fifteen feet, but in a dry year will fall much lower. It is said that during the last few years the level has been high. The amount of water which can be drawn out of a well depends on the source from which it is fed. The supply from beneath the lower clay is inexhaustible; but most wells are filled from the sand, and are liable to be worked dry, especially where the rainfall has been deficient.

Method of
constructing a well.

The method of sinking a well is as follows. An excavation of the size designed for the well is first made through the upper stratum of clay soil till the sand is reached, generally at a depth of fifteen to twenty feet: and at the bottom of this is laid down the *chak* or cylindrical frame-work of wood on which the masonry lining of the well is to be rested. This lining is built up to the surface, and above it to a height of eight or ten feet, and weighted down while the sand at the bottom is scooped out. The structure gradually sinks through the sand, the *chak* keeping it firm. Three sorts of sand are met with in the excavation: first, fine dry sand (called *reti*), and then moist, coarser sand (*reta*), and finally sand which comes out in lumps mixed with pieces of clay or kankar (called *ghatti*); and it is from this last that the water is generally drawn. The sinker says that a good foundation has been reached (*pathan lag gáya*). The top of the well is then finished, and the reservoirs and other appliances built. In some villages the lower stratum of clay is reached (called *pandu*), and this gives a sure foundation for the well. A hole about a foot in diameter is driven through the clay into the sand below it by means of a pointed iron instrument; and the water rises as in a spring. It is a great piece of luck to have a well founded on the *pandu* for it can never fall in, and the supply of water is unlimited. Such a well is generally worked with three or four buckets. The *pandu* is said to be reached in most well-sinking villages about Malaudh and occasionally elsewhere. A well not founded on the *pandu* besides having a supply of water that is liable to be exhausted

may suddenly disappear altogether, or gradually subside, the foundation being undermined by the action of the bucket.

Wells are worked with one, two, three and even four buckets ; and we cannot judge of the irrigating power by merely striking an average of the area for each well. It is usually calculated that a two-bucket well can irrigate half as much again as a single well ; and at this rate we have the average area watered by one of the latter sort 12 acres, and by one of the former 18 (in the Dháia). The following is an extract from the Assessment Report of Samrála: " But to form an idea of the irrigating power of a well, we must examine the area under the various crops and the seasons during which they are irrigated. Roughly speaking, the Rabi crop is irrigated for six months (October to March), and the sugarcane crop for ten months (May to February). The other Kharif crops, cotton and maize, require irrigation for nearly four months (July to October). The number of waterings given varies with the character of the season ; but generally the Rabi crop requires one every twenty days, and the cane once a week. Taking the Rabi crop then, we have 28,000 acres watered once in three weeks, or 9,300 once a week, and 6,200 of sugarcane. This gives about five acres watered every week by a one-bucket well. In the Kharif the area is naturally a good deal less. The estimate given me by zamíndárs is one bigah (*pucka*), or five-eighths acre a day for each bucket." The average area watered by a masonry well in the Bét is nearly seven acres, which bears about 12 acres of crop in the year.

It is expected that irrigation from the Sirhind Canal will be commenced from the Rabi of 1883-84 in the villages to the south-west of the district ; and in a few years it is likely to be extended to all villages in the uplands lying west of the Máler Kotla road. The distributaries are at present under construction.

Table No. XXII shows the number of cattle, carts and ploughs in each tahsil of the district as returned in 1878-79.

The plough (*hal*) universally used is the *mona* (see " Punjab Manufactures," page 314), which is decidedly the best of the two patterns in use in the province, being much stronger than the other. It is of course a primitive implement, with no mould board and no turning action ; but it opens the soil to a depth of eight or ten inches, and produces a fine tilth. The various parts of it are called *mona* (the block), *thail* or *arli* (the handle), *phála* and *cháo* (share and coulter), *halas* (beam). The bullocks are yoked by a *panjáli*, or frame-work passing over their heads into which the *halas* is fixed. To the plough is attached, when necessary, a *por* or tube made of bamboo hollowed, with a leather mouth, through which the seed is drilled. Ploughing is followed by rolling with a *sohága*, a beam of wood to which the cattle are yoked, the man standing on it and driving. The *sohága* is also used in stiff soils for clod crushing. *Paráin* is the goad for driving the bullocks. *Jindra* is a rake without teeth, worked by two men, from one side with a handle, from the other with a rope. It is with this that the irrigated lands are ridged off into *kiáris* or plots for irrigation. The *kahi* or mattock is mostly used in making the irrigation channels (*ádkh*). The hoeing is done with a *gambá*

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or *khurpa*, a trowel with a crooked handle. The crop is reaped with a *dátri* or sickle, and threshed with a contrivance called *phalla*, and winnowed by being thrown into the air with a pitchfork (*salang*) or from a basket called *tangali*. The other chief implements are the *salang*, a wooden fork with two prongs used as above, and also for making up hedges, &c.; the *kará*, an iron rake or cutter, used in place of the *jindra* and worked with bullocks in very stiff soil for levelling, &c.; the *kohári* or common axe for cutting wood; *gandúsa*, an axe or chopper with a long handle, the blade being a thin piece of iron about an inch wide and six inches long fastened to the end by two spikes of iron; a *gandúsi*, the same with a short handle for chopping fodder; a *gandúla* or stick tipped with iron for making holes into which the branches set up in the hedges are set. The principal parts of the well-gear are the *charsa* or bucket; the *láo* or rope with which it is raised; the *páoni* and *kohir*, wheel on which the rope works and fork in which it fits. Water is raised from tanks, &c., by a basket lined with leather worked by two men with ropes (called *dal*). The sugarcane press is called a *belna* or *kulhári*, and a description of it will be found elsewhere. Small carts are used by most cultivators for bringing the harvest from the field, carrying manure, &c. They are of the ordinary pattern of country cart, but do not go beyond the village.

The following is a calendar showing the ordinary round of agricultural work of the year :—

Agricultural
calendar,

No	NAME OF MONTH.		State of Agriculture.
	Vernacular.	English.	
1	Chét ...	March-April ...	Cane planted up to 15th. Cotton sowings all through the month; also melons up to 15th. Wheat crop irrigated once; and if rain falls, unirrigated lands ploughed for next rabi. At the end of the month sarson and then barley reaping begin.
2	Baisakh ...	April-May ...	All rabi crops ripe; gram, <i>berra</i> , wheat, reaped first in unirrigated and then in irrigated lands. Threshing begun. Cotton sowings and cane watered all through the month.
3	Jeth ..	May-June ...	Threshing completed, and grain and straw stored. Cotton sowings and cane watered.
4	Hár ...	June-July ...	Cotton sowings completed by 15th and cane watered. Rains commence by the middle or end of the month; and one or perhaps two ploughings for the autumn unirrigated crop given; and one in the land intended for the rabi: <i>san</i> sown, and <i>moth</i> , <i>charri</i> , &c, sowings commenced.

No	NAME OF MONTH.		State of Agriculture.
	Vernacular.	English.	
5	Séwan ...	July-August ...	Maize sowings commenced, and all kharif sowings should be completed by middle of the month. Then the ploughings for the rabi commence, and three or four given. Kharif well crops watered if necessary.
6	Bhádón ...	August-September ...	Ploughings for the rabi and kharif crops watered if necessary.
7	Assoj ...	September-October	Rabi sowings begin in unirrigated lands. Gram from 1st to 15th, and then <i>berra</i> (wheat or barley with gram.)
8	Katak ...	October-November	Rabi sowings continued and completed, the irrigated lands last of all; and by the middle of the month kharif harvesting commences. Cotton picked all through the month. Kharif crops watered in these two months as necessary.
9	Magar ...	November-December	Late rabi sowings. Kharif crops threshed in first half of the month. Cotton pickings go on; and cane pressing commences towards end of month.
10	Poh ..	December-January ...	Cotton pickings completed, and cane cutting and pressing goes on. Rabi crops irrigated.
11	Mágh ..	January-February ..	Cane cut and pressed; rabi crops watered. Lands ploughed for cane and for next rabi if rain falls.
12	Phágan ...	February-March ...	Rabi crops watered; cane and cotton sowings commence from the latter end of the month.

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calendar.

The implements at the command of the agriculturists are, it will be seen, few in number and of the simplest character; but by their means the Jats, and a few of the better cultivating Muhammadans too, are able to sow an agriculture that will bear comparison with that of most countries. The operations of agriculture differ in the various portions of the district according to the crops grown, and presence or absence of irrigation.

In the uplands the wells generally lie round the village site in a ring, the unirrigated lands being outside of this. In some of the small villages of the Kheri *ilāqa* (Samrála) the whole area is practically irrigated, and in most villages of this tahsil upwards of 40 per cent. is regularly watered. As we go westwards the proportion gradually decreases to about 10 per cent. in Jagraon tahsil, while the outlying villages to the south have none at all. The irrigated cultivation is best studied in Samrála, where it is in greatest proportion, and here it varies in quality from that in the rich *niái* land adjoining the site on which is deposited all the natural filth of the village besides what it receives from the manure heaps, to the land attached to distant wells, to which manure is with difficulty conveyed and grudgingly given. The *niái* circle comes so close to the site as just to leave room for a road. It may be said to be always under crop, and regularly bears two harvests in the year. In January or February, while the Rabi crops

General sketch of
the agriculture of
the district.

Cultivation at the
wells in the Dháia.

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wells in the Dháin.

are growing, the fields selected for sugarcane are manured, watered and then ploughed till the soil is reduced to a fine tilth to the depth of eight or ten inches. The cane is then planted (March-April) and watered at intervals. Then the fields for cotton are treated in the same way, and most of the crop sown before the rains in April-June. When the rains begin it is time to sow the maize, and this is done from the middle to end of July in land prepared in the same way as for the other two crops. The maize fields are those nearest to the village and the richest, what the people specially denote as *nidi*, or land adjoining the site. The tilth produced by the preparation for these crops is very fine, being the result of successive ploughings and rollings. When the seed has been put down the field is banked off into small divisions (*kiáris*) with a rake (*jindra*) for the purposes of irrigation, each of these being flushed with water in succession. This closes the Kharif sowings in irrigated land. After the first one or two waterings the fields are in the case of all three crops carefully hoed, the cultivators working through them steadily in a line, removing grass and weeds and loosening the earth, which is apt to cake from the watering and stop the growth of the plant. The amount of irrigation which these crops receive depends on the character of the rains. The cane has to be kept alive through the hottest part of the year, but luckily it is the only crop to be attended to then. After the rains have commenced the well has to be turned on whenever there is a break, and the necessity is more constant towards the end of the hot weather. It is when these crops have grown to their full height that the Samrála and eastern Ludhiána villages look their best, being surrounded to the distance of 200 or 300 yards by a magnificent growth of maize and cane eight or ten feet high. The maize is ripe by the end of October, and is reaped in the beginning of November. The sugarcane is generally ready for cutting about the beginning of December, and the cutting and pressing go on into March. The Rabi sowings of wheat and barley in irrigated lands are made in the beginning of November, either in fields near the site which have just borne a crop of maize, or on more distant ones which have been lying fallow (*sánuce*) during the Kharif. If there is not sufficient natural moisture, a watering is given from the well, and this is generally necessary. Several ploughings in succession produce, as in the Kharif, a fine tilth, and the seed is sown broadcast, ploughed in, and the land rolled and banked for irrigation. The crop gets one watering a few days after sowing, and others at intervals till within a short time of its ripening, the number of waterings depending on the amount of rain. The Rabi is off the ground by the end of April and is followed by small patches of tobacco, onions, &c., which grow in April-June; but most of the land not under sugarcane is left alone for two months till the rain falls. When land bears two crops in the year, (or the equivalent one of cane) it is called *dofasli harsálá*, i.e., bearing two crops every year. Where a fallow is usually given, the system is *ekfasli harsálá*, i.e., only one crop in the year is grown. This description of irrigated cultivation will apply to villages in the Jangam tahsil if we cut out the

sugarcane and cotton. The maize gets all the attention and the supply of manure distributed in Samrala between the three crops, being the only Kharif at the wells. It occupies ten out of a total of sixteen thousand acres of irrigation in this tahsil.

In the Dháia unirrigated lands there is a very well established system of cultivation. To explain it, we must begin with land from which a Kharif crop has just been taken. When the rain falls in *Mágh* (January-February) the field is ploughed and left open to the action of the elements. If the cultivator has time, he may plough it again whenever there is a fall of rain, but it is not often that he can do this. When the autumn rains fall, ploughings again commence in July, and the land gets a number of them in succession, and is prepared for the Rabi sowings, having had a year's fallow, and being reduced to a very fine tilth by the final ploughings in September. Sowings ordinarily commence from the middle of September, the gram being the earliest crop in the ground, and being followed by wheat and gram (mixed), wheat, barley, in this order; they go on in ordinary years till the beginning of November, and till much later if the rainfall is bad. The fields are weeded at intervals, *piáji*, thistles, &c., being carefully removed. The crop ripens in April, and harvesting begins about the Baisákhí day (10th-15th April), a little being done before that. When the monsoon rains begin, the land out of which this Rabi crop has been taken is ploughed once, and the Kharif pulses and millets sown in it without further preparation, as none is really necessary. The Kharif ripens at the end of October. The course of cultivation sketched above extends over two years, in the first of which the land bears no crop, although really the Rabi of one year is followed by the Kharif of the next; but of course the whole of a cultivator's land does not go through the various stages at the same time. Part of it will be under crop at the time that the rest is enjoying a fallow. The manner in which the lands of a village are generally distributed amongst the community has been already noticed in the Section on Tenures (page 89), each sharer having a portion in each of the blocks into which the lands are divided, and his fields being scattered all over the area of the village or subdivision. It is obviously convenient for the people of adjoining fields to have their land under crop or fallow at the same time, and in fact the members of the community always pull together in this matter, with the result that the village area will be found mapped out into blocks of fields which are either cropped or fallow at the same time. In small villages there may be only two such blocks, but there are usually a good many. Besides the advantage of the system as best suited for the land, it has others incidental to it, such as the convenience of being able to graze the cattle over a large piece of fallow, and the facilities for watching the crops.

This system of cultivation (which has been named *dofasli dosála*, or the two years' course, the land yielding two crops in two years) may be said to extend generally over the Dháia; but in the light soils immediately over the ridge or high bank (the Lower Dháia Assessment Circles) the area under the Rabi is much larger than that under the Kharif because for various reasons the

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Agriculture and Arboriculture.

Unirrigated Dháia cultivation. The two years' course.

Other systems.

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Agriculture and
Arboriculture.Cultivation in the
Bét : manured.

former is found to pay better, and a large proportion of the land is under Rabi every year (*ekfasli harsála*).

In the eastern portion of the Bét there is no irrigation, but the soil is naturally moist, and the cultivation of manured land is of the same nature as that of irrigated land in the Dháia, cane, cotton and wheat being the crops. The *niáí* area generally lies round the site, but not as a matter of course, for there are no wells to make it necessary that the superior crops should be raised in a fixed area, and we accordingly find that it is very often shifted. In fact two crops or sugarcane can be grown in any land that gets sufficient manure, though it is generally convenient to have these crops near to the village. Except for the waterings, the description of the irrigated cultivation of the Dháia will apply to the manured lands of the Bét. In the western half of the Bét there is a great deal of irrigation, and the superior cultivation is all at the wells. Maize followed by wheat is grown as in the uplands, and there is also some very fine market garden cultivation, especially under the city of Ludhiána, from which an ample supply of manure is drawn.

Unmanured.

In the Bét the *dofasli dosála* system of cultivation is followed for unmanured lands in villages at a distance from the river; but even here the area under wheat is larger than that of the Kharif. In this case all the land in turn is generally put through the two years' course. Thus a field will bear a Rabi for three or four years in succession, and then this will be followed by a Kharif, to which will succeed a year's fallow. In the moister lands near to the river a Rabi is grown year after year. The unmanured Kharif crop is nowhere of much importance in the Bét. The newly recovered lands in the *Mand* are ploughed up roughly the first year; and *massar* or some other poor crop sown, often without removal of the *pilchi* and reeds. Next year the land receives better tillage and is cleared, the crop being a mixture of *massar* with wheat or barley; and in the third or fourth year wheat alone is grown, the soil having become quite clean. The Rabi in these new moist lands is often preceded by a Kharif of rice, *másh*, maize, &c. As a whole the agriculture of the Bét is much inferior to that of the Dháia. There are no light soils like the *rausli* of the uplands, and the land requires much greater labour, and is naturally foul with weeds. Besides this the Muhammadan proprietors, except the Aráins and Awáns, are generally rather poor cultivators. The fields immediately round the site, or at the wells where there is irrigation, are kept clear enough; but in the outlying ones the crop will generally be found choked with weeds, the result of insufficient ploughing and failure to attempt keeping them down.

Particular operations : Ploughing.

In irrigated lands preparation of the land for a crop by ploughing can begin at any time. The field is flooded and allowed to dry partially, and then ploughed five or six times in succession. This is always the method of preparation for maize and wheat; but for cane the land is fallow (*sámoe*) during the cold weather; and it is often ploughed like unirrigated lands with the aid of the winter rains. For cane it is said that eight or ten ploughings are necessary, and as many as 15 or 20 may be given. Maize generally gets five or six, and wheat four or five in irrigated land. Where the two years

course is followed in unirrigated lands, there are three recognized seasons for ploughing. When the rain falls in Mágh (January-February) the field from which a crop has been taken in October is ploughed twice in opposite directions and left open to the action of the elements. If subsequent showers fall the cultivator may plough it again ; but he has seldom time to do this, at all events where sugarcane is grown. The next ploughings commence when the rain falls in Sáwan (June-July) ; and the land then gets three or four at intervals, being reduced to a good tilth, and then smoothed with a *sohága* to keep the moisture in. In Bhádon, when the time for sowing approaches, one or two more ploughings are given according to the nature of the soil. The cold weather ploughing is well recognized by the people as the most important operation of all. The great increase in the fertility of the soil produced by its exposure to the air is easily explained on chemical grounds. The following popular couplet describes the value of the ploughings at the various seasons ; “ Sial Sona ; Hár Rúpa ; Sáwan sáwen ráwen ; Bhádon be baguchia : Tain kiún báha thia luchia,” *i. e.*, “ ploughing in the winter is gold ; in Hár, silver ; in Sáwan, indifferent ; in Bhádon it is repentance : what is the use of your going about it, you lazy rascal ?” Where, as in parts of the Bét, the two years’ course is not followed, winter ploughings are not possible. For the Kharif only a couple of ploughings are given in the Rabi stubble, the seed being sown with the second. Ploughing is always commenced in unirrigated lands a few days after the rain has stopped, when the land is beginning to dry, this condition being called *vatar*. Three bullocks are usually taken out to the fields for the work, one always being at rest. The plough does not generally go very deep ; in the winter ploughing, six or seven inches ; but in those of the rainy season the tilth produced is not less than eight or ten inches, the plough going deeper each time.

Sowing of the ordinary grains is done either broadcast (*chatta*) or by drilling through a tube (*tor*) into the furrows. The latter method is almost invariably employed in unirrigated lands, where it is desirable to get the seed well under the surface in contact with the moisture ; but there is no fixed rule in the matter. In irrigated lands and in the Mand Bét the sowing is broadcast. The people will tell one that in former times when there was plenty of rain this was the case everywhere. The Kharif crop is sown broadcast, more often than the Rabi. After sowing the furrows are generally left open, always so in the western parts ; but in Samrála tahsil the field is sometimes smoothed. Maize and cotton are sown grain by grain by hand. Maize, it is said, should be so widely sown as to enable a man to run between the stalks. The method of planting cane is described below.

Hoeing (*godí, gudna*) is done with a *ramba* or trowel, the worker going through the field in a sitting posture, carefully cutting out grass and weeds and loosening the earth round each plant.

The lands round the village site are always carefully hedged in the Dháia with kikar or bér branches fixed into the ground, and tied together with a rope of cane stalks which have been nassed

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Agriculture and Arboriculture.

Particular operations: Ploughing.

Other operations :
sowing.

Hoeing.

Hedging.

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Arboriculture.

Hedging.

through the press (*thathe*.) These hedges are strong, and keep out the cattle very well. They extend along the sides of the various roads leading to the site, and enclose the whole of the irrigated fields. At certain points there are openings with stiles to enable the cultivators to get to their fields. The people are more careful than in any other neighbouring district about keeping animals out of their fields. Each plot or collection of fields of sugarcane has a strong hedge of its own. The unirrigated lands are generally quite open, except in the Jangal villages, where the traffic is often kept to the roads by thick hedges of the prickly *mallah* or wild *bér*. In the *Bét* there is not much hedging of any sort, but the *niáí* lands are more or less protected according to the disposition of the people.

Cutting, stacking,
and threshing.

Cutting is done with a sickle (*dátri*). The cutter goes through the field in a sitting posture, laying down the handfuls as they are cut. These are afterwards tied into sheaves. Maize and jowár are collected in a stock (*mohúra*) in the field, the stalks standing upright. After a few days, as the cultivator has time, the heads are pricked off, the maize husked and collected in a heap, where they are beaten with a straight stick till the grain leaves the cob or head. The stalks are stored for fodder on the house-tops or elsewhere. In the case of the other grains the sheaves are collected in the field, the stack being called *láhan*, and thence taken to the *khalwára* or threshing floor at the village, generally on a cart. The place selected for threshing is the hard, beaten ground, such as is found in the *goerah* of most villages. This is swept clean, and the crop is spread out on it in the form of a circle to the height of two or three feet, and the *phala* or thresher drawn round and round it by two bullocks driven by a man or boy sitting on it. By the action of the *phala* and the trampling of the bullocks the straw is broken up fine, and the grain separated from the heads and husk. The *phala* is a square frame made of four sticks, each about three feet in length, and joined at the corners. The inside is filled with *kíkar* or *bér* branches, covered with one or two sheaves of corn, on the top of which the driver sits. For winnowing a breeze is required. The mixed grain and straw is first tossed into the air with a pitchfork (*salang*); and the grain separated from the straw. But with the grain a good deal of straw and chaff is still left; and to get rid of this the grain is taken up in a winnowing basket called a *chhaj*, and allowed to fall gradually from above the thresher's head, the wind blowing the remaining straw and chaff away from the grain. Of all the operations described in this paragraph this last is the only one which the cultivator does not invariably do for himself. The ordinary cultivating proprietor employs no field labour. His women bind the sheaves, and he does everything else himself; but it is the custom in places for the *Chamá*r or *Chúhra* to work the *chhaj*. There is none of the waste on reapers' wages and other allowances, such as prevail in many districts. Even the village menials receive but a scanty share of the harvest.

Actual cultivation of
a holding.

In the preceding paragraphs an attempt has been made to describe the agriculture of the district as a whole, and to show

the system on which the lands of a village are cultivated. From what has been said in the Section on Tenures (page 89) about the constitution of villages, it will be evident that nothing resembling a farm according to European ideas exists, as it does in other parts of the province where the land of a cultivator lies in a lump, generally round a well. The village is made up of a number of holdings owned by separate members of the community; and each owner has in his holding a share in every class of land situated in all parts of the village or subdivision. The operations have in the preceding pages been described separately, but every proprietor has to distribute his time and labour over the various crops, which are of every description, growing in his lands. Thus in Samrāla uplands a proprietary holding consists of about six acres of land, of which $3\frac{1}{2}$ (roughly) will be unirrigated, and $2\frac{1}{2}$ irrigated. Of the former again half will be under fodder for the cattle and half under the common food grains; while of the irrigated land less than one acre will be under cane and cotton, and the rest under maize and wheat. But it is not possible for a single man to work a holding (*lāhna* or *katāna*), as he could never alone take his own turn at the well, which requires at least four bullocks and three or four men at a time. In practice 20 or 30 acres are cultivated by a partnership, which may be temporary, the land of the several proprietors being separately owned; or the holding may be really a joint one, belonging to a family containing five or six able-bodied men. This gives the result that large patches of cane, maize, &c., are grown, several fields being clubbed together for each crop. In the Jangal villages, where agriculture is in its simple stage, things are different. The division of the cultivator's labour is easy enough, and the task of cultivation is very light. From July to November the cultivator is more or less busy between sowing and reaping the Kharif, and preparing the land for and sowing the Rabi. But with the Rabi in the ground there remains almost nothing to be done till it is reaped; and after that absolutely nothing for some months. In Jagraon, where there is not much irrigation, the labour is also light. But in the highly cultivated villages of the east of Ludhiāna and in Samrāla, the work of cultivating a holding is incessant, and wearying alike to man and to beast. There is no rest all the twelve months, except for a few days in the rains; and there is so much to do about the months of October-December that the cultivator often finds that he cannot get through it all; and loses his chance of sowing his Rabi in time, or neglects some other operation.

The area that can be worked by a pair of bullocks depends on a variety of circumstances. Thus in the Bét the cattle are very poor, and cannot cover much land; and besides this a great part of the area in the upper Bét is cultivated twice every year. In the uplands it is the wells that make the difference, and, of course, the superior cultivation at them. In the Bét it appears from the returns that there is a pair of bullocks to every six or seven acres of cultivation; while in the eastern and highly cultivated uplands the average is eight or ten acres; and in the Jangal it is about seventeen to a yoke. The following are the details for some of the Assessment Circles:—

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Agriculture and Arboriculture.

Actual cultivation of a holding.

Area under a plough.

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Agriculture and
Arboriculture.

Area under a
plough.

CIRCLE.	No. of cattle (plough and well)	Area culti- vated.	Average per bullock.	Per cent. of irrigation.
Bét Samrála	5,250	16,185	3	1
Bét I, Ludhiána	6,332	21,237	3	5
Upper Dháia, Samrála	25,560	107,750	4	42
Do., Ludhiána	20,557	95,109	5	22
Páwadh, Ludhiána	6,057	27,332	6	29
Jangal	7,254	59,208	8	.....

Manure.

In the description of the use of manure as practised in the district, which was furnished for the Famine Report of 1879 (page 251), it was stated that 53 per cent. of the irrigated land was constantly, and 47 per cent. occasionally manured; while of the unirrigated cultivation only one per cent. of the irrigated area received occasional manure; that some 33 per cent. of the irrigated area grew double crops; and that the quantity of manure used per acre was 100 maunds in the land occasionally, and double that weight in land constantly manured.

Allusion has already been made to the natural supply of manure which the fields just round the site receive by being made the receptacle of the village filth. The litter of the cattle is collected by the cultivators, each having his own heap, in hedged enclosures outside the site. The greater part of the droppings have been carefully removed for fuel, and the refuse consists of byre sweepings. By the commencement of the autumn rains these heaps have attained some dimensions, and the rains assist the decomposition of the mass, which is carted or carried in baskets to the fields intended for maize, spread over them and ploughed in. A top dressing is afterwards given when the maize has sprung up. For the Rabi following a little manure is also ploughed in; but the effect of that used for the maize lasts for the Rabi, as it is not really ready when put on, and some more is spread over the surface when the wheat is two or three inches out of the ground. The winter collections of manure (November to March) all go for the sugarcane; and they are generally in very fair condition, having been rotting for four or five months, and exposed to the rain. Top dressings are also added till the cane is about three feet high. This description will apply to irrigated and to *dofasli* Bét lands alike. Unirrigated lands in the Dháia never get manure, as they are much too dry to stand it. The western Jagraon and Jangal villages have a magnificent supply, which is at present wasted, but will all be used when canal irrigation is introduced. The manure is rather inferior according to our ideas, as the most valuable part has been taken out; but it has a great effect on the soil, and is much valued. It would be impossible to raise cane or two crops in the *niái* land without it. The refuse of the city of Ludhiána is very fine manure. It is bought up by the

Bét villages just under, in which there is some first rate market gardening done in what is really poor soil.

It will be seen that in the Dháia unirrigated lands there is an established rotation, the Rabi crops, which obtain most of their nourishment from the soil, being followed by the broad-leaved Kharif crops, which draw less on the soil and more on the atmosphere; and the two crops being succeeded by a year's fallow. In the Bét and other places, where this course is not followed, there cannot be said to be anything resembling a rotation, for there is only one crop to be grown. In irrigated lands there is very little approach to what could be called a regular course, for the crops here too are limited. Still the people very seldom grow their sugarcane in the same field year after year; but prefer, if possible, to have it following cotton. Some fields have undoubtedly been producing maize followed by wheat or barley, for centuries one may say, but the area so treated is limited to the fields touching the site. An ordinary manured field will generally go through such a course as this:—

Chapter IV, A.
Agriculture and
Arboriculture.
Rotation of crops.

Year,		Rabi.	Kharif,
First	...	Fallow ...	Cotton.
Second	..	Fallow or fodder crop ...	Cane.
Third	...	Fallow ...	Cotton.
Fourth	...	Fallow or fodder crop ...	Cane.
Fifth	...	Fallow ...	Maize.
Sixth	...	Wheat ...	Do.

Outlying fields are not so heavily cropped as this; and those in which maize and wheat are grown do not generally bear cotton and cane. In fact the cultivation of the two sets of crops is kept quite separate on many lands.

The usual complaints are occasionally heard about exhaustion of the soil; but they are not pressed upon one, and there is little foundation for them. When it is said that the land does not yield so much as it did 200 or 300 years ago in the time of Akbar or before it, there is no reason for dissenting from the proposition. It was then only being brought under cultivation; and there was no necessity for cropping any of it regularly. Thus three out of four kinds of land enumerated in the Aín Akbari (Gladwin's Translation, Volume I, Part III) are fallow; and revenue was only paid for land when cultivated. The waste probably exceeded the cultivated area, and a new piece could always be brought under the plough when a fallow was required. The rates of yield given in the Aín are certainly high; but they are for the whole of India, and are not greater than would result if fallows were given to the land now. Thus the yield of wheat is set down at nine to eighteen maunds a bígah (our standard).

Exhaustion of the
soil.

				Maunds.
Gram	...	...	...	... 7½ to 13
Gur	...	...	...	... 7½ " 13
Múng	...	...	...	... 3¼ " 6½

and these are not after all very heavy, taking both irrigated and unirrigated.

Chapter IV, A.

Agriculture and
Arboriculture.Exhaustion of the
soil.

Principal staples.

had fully developed, a lower standard of productive power should be reached where manure was not used; but there is nothing to show that within recent times, such as we have information concerning, this standard has decreased. The well lands, we know, will yield according to the amount of manure put on them; and the system of cultivating the unirrigated is in most parts of the district sound, and not likely to cause deterioration.

Table No. XX shows the areas under the principal agricultural staples. The remaining acres under crop in 1880-81 and 1881-82 were distributed in the manner shown below :—

Crop.	1880-81.	1881-82.	Crop.	1880-81.	1881-82.
Kangni	170	58	Other drugs and spices	10,190	4,105
China	1,038	468	Linseed	119	57
Matter	...	445	Mustard	52,034	8,838
Másh (Urd)	18,114	6,491	Til	390	270
Múng	16,870	25,377	Tára Míra	3	153
Masúr	52,828	11,905	Hemp	8,287	5,223
Coriander	...	25	Kasumbh	1	...
Chillies	20	14	Other crops	50,072	59,225

The following is an abstract of the area in acres and percentages under the various crops grown in the district as ascertained at the recent Settlement :—

KHARIF OR AUTUMN HARVEST (PER CENT. 44.)				RABI OR SPRING HARVEST (PER CENT. 56.)			
Crop.	Irrigated.	Unirrigated.	Total	Crop.	Irrigated.	Unirrigated.	Total.
Sugarcane	9,322 ₁	3,942 ₁	13,264 ₂	Wheat	55,429 ₇	69,313 ₉	124,742 ₁₆
Maize	36,523 ₅	14,446 ₂	50,969 ₇	Barley	9,818 ₁	14,542 ₂	24,360 ₃
Cotton	13,829 ₂	4,691 ₁	18,520 ₃	Gram	1,098	29,896 ₄	30,994 ₄
Pulses ("Moth," &c.)	1,422	9,984 ₁₂	92,406 ₁₂	Wheat with Gram.	4,712 ₁	166,782 ₂₂	171,494 ₂₃
Fodder ("Charri," &c.)	5,140 ₁	102,210 ₁₃	107,350 ₁₄	Barley with Gram.	1,456	52,236 ₇	53,692 ₇
"Charri," with "Moth," &c..	702	30,025 ₄	30,727 ₄	Others	9,779 ₁	13,797 ₂	23,579 ₃
Rice	41	2,492	2,533	TOTAL	82,292 ₁₀	346,566 ₄₆	428,858 ₅₆
Others	3,649 ₁	11,792 ₁	15,441 ₂				
TOTAL	70,628 ₁₀	260,582 ₃₄	331,210 ₄₄				

Sugarcane, maize, cotton, and wheat are in the uplands only raised in land artificially irrigated, the unirrigated entries for these crops being for the Bét. The distribution of the various crops over the district is as follows. Sugarcane is grown in the first twelve or fifteen miles of the Bét, and in the uplands of Samrála tahsíl, and of Ludhiāna, except in the Jangal villages and in the country about Pakhowál; but the proportion is higher in Samrála, and gradually decreases as we go westwards. There is also very little of it in the sandy tract along the high bank: and none is grown in Jagraon. Cotton is generally grown where cane is, and also further west; but very little in the Jagraon tahsíl. The other crops are grown everywhere, except that in the uplands maize and wheat require irrigation, and there is none in the Jangal villages. The autumn unirrigated crops, pulses and fodder, are the same throughout the district; but in the Jangal villages *bájra* sometimes takes the place of *jowár* because it is more hardy. So too wheat mixed with gram is the unirrigated Rabi crop in the eastern parts where the rainfall is heavier: while in the more arid tracts of Jagraon and the outlying villages barley takes the place of wheat. Thus in the east of the district, where the percentage of irrigation from wells is highest, we have a larger proportion of the superior crops, cane, maize, cotton and wheat: while in the western part (Jagraon tahsíl) there is not much irrigation, and the greater part of the area is under the rain crops.

Sugarcane is grown in an area of 13,213 acres; but its importance is much greater than is indicated by this, for the value of the yield is about ten times that of an ordinary unirrigated crop, and the total annual value some Rs. 12,00,000. It is almost entirely grown for the manufacture of some saccharine product (called *kátha* cane); but in a few villages the *ponda* or eating variety is raised. *Kátha* cane is grown in the unirrigated lands of the Samrála Bét (where it occupies 12 per cent. of the whole area), and of a few Ludhiāna villages; and at the wells in the uplands of Samrála and the eastern portion of Ludhiāna, the best crop being, perhaps, that raised about Malaudh. It is of three sorts: *chan*, a soft, juicy cane which grows to a considerable height, has a red colour and long joints (*pori*); *dhaulu* does not grow so high, has small joints, and is of a green colour and less juicy; while *ghorru* is an inferior sort, with many joints and a great deal of leaf at the top, very hard, and yielding much less juice than the others. The first of these is the real cane, and the other two are mere degenerations; no one ever keeps a *ghorru* stalk for seed; and *dhaulu* is only planted if there is not enough of *chan*. The cultivation in the Dháia and Bét is much of the same description. Cane is sometimes the only crop in a field for two years, especially in outlying ones, where the supply of manure is limited. It may also be grown with the aid of a great deal of manure in land just cleared of another crop of cane, or of a rabi crop of wheat; but, as a rule, it occupies the land for three harvests following a Kharif of cotton. Cane is not grown in the fields next to the site, but generally at a little distance. It is always planted if possible in land that has been cropped with

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Sugarcane.

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cotton; and in the Upper Dhāia Circle of Samrála we find that the area under the two crops is nearly the same. The rotation is generally—

YEAR.	RABI.	KHARIF.
First ...	Ploughing ...	Cotton.
Second ...	Fodder, &c. ...	Ploughing.
Third ...	Ploughing and cane sown ...	Cane.

and back again to cotton, giving a cane, a cotton and a fodder crop with perhaps a little grain in three years. The cane field is selected next to the well, as the crop has to be kept alive during the hottest months, and always gets more frequent waterings than any other. The land is ploughed not less than seven or eight, and up to 20 times, the more ploughings the better. All the available manure has first been spread over the field, and is ploughed in. The planting is done from the middle of Phāgan to the middle of Chét (March). The seed consists of joints (*pori*) cut from last year's crop, which have been kept covered up in pits in the field. In planting them one man goes along with a plough and another follows, laying down the joints at intervals of six or eight inches in the furrow. The plough in making a new furrow covers up the former one; and the whole field is finally rolled. The canes spring from the eyes (*ánkh*) of the joint. About four or five canes will come of one joint. Then follow waterings at intervals of seven or eight days in the uplands, and hoeings after each of the first few waterings. The fields are very carefully protected by stout hedges. In the Bét there are no waterings, and seldom any hoeings: and the fields are quite open. The cane in the uplands grows to a height of eight or ten feet, and when it becomes heavy, is protected by several stalks being tied together. In the Bét the height is only five or six feet, and this precaution is not necessary. There is altogether a great difference in the modes of cultivation, Dhāia and Bét, due principally to the difference of natural conditions, and partly to the different habits of the cultivators, those of the Dhāia being industrious Jats, and of the Bét apathetic Muhammadans, of the Rājput and Gújar tribes principally. The method of extracting the juice is much the same in both tracts. Cutting goes on all day in the field, each cane being stripped, and the flag at the top with the small joints immediately below it being removed. In the evening the seed joints are separated from the flag (which is then used for fodder or for feeding the boiler furnace) and tied up in bundles for seed. The cane is carted to the *belna* or mill, which stands just outside the village site. The pressing is done in a *belna* or mill, the cane being passed in bundles between two horizontal wooden rollers, and the juice running into an earthenware jar set to catch it. In a corner of the enclosure of the mill stands the boiling shed, and the juice is taken into this and boiled in pans. The further processes are noticed below, in Section C. of this chapter. In the Dhāia the Jat requires no assistance in the boiling and turns his juice into lumps (*bheli*) of *gur* or into *shakar*, which he may dispose of that very day. In the Bét the money-lender has invariably advanced money on the crop, and his man does the boiling

Here the produce when boiled assumes the semi-liquid form of *rab*, which is taken in part payment of the debt. Sugarcane is the crop invariably converted into cash, and may be said to be the revenue-paying one. It is very valuable, otherwise it could never have held its own so long, for it occupies the land the better part of two years; and in the *Dháia* the labour of cultivation is incessant. Bullocks stand the work at the wells and in the *belnas* for only a few years; and the cultivators are never tired of complaining of their hard life. These objections make it a dangerous crop to any but the most thrifty classes. The Jats keep out of debt because it is in them to do so; but the Muhammadan of the *Bét* will tell one that he is a victim of the sugarcane crop, and he is right to some extent, for he has not the qualities which would enable him to subsist while his crop is growing.

Ponda sugarcane is now raised in a good many villages under Ludhiána. It was formerly confined to two or three *Aráin* villages; but the cultivation has spread. This crop requires a great deal of manure and constant attention; and pigs and jackals are very fond of it. But the canes have a ready sale in the Ludhiána bázár, and the crop is worth at least from Rs. 100 to 150 an acre; and is often bought for that amount as it stands by the green-grocers.

Cotton is sown during the months *Chét-Hár* (April-June) in fields which have had a *Kharif* or a *Rabi* harvest. The best crops are raised in land which has enjoined a fallow in the *Rabi* (*sánwe*). The yield is better because of the fallow, and also because the sowings are early. It is not usual to have cotton immediately after a *Rabi*, and where this is done in *Hár* the yield is poor. The crop generally follows cane, as explained in the last paragraph. The number of ploughings required is not so great as in the case of cane, and three to four are sufficient. In the *Dháia* it is grown in the unirrigated lands of a few *Samrála* villages; but mostly in the well lands, and in *dofasli* or *niái* fields of the *Bét*. Where grown at the wells, irrigation is necessary before sowing, unless there have been stray showers of rain in April-June, as there very often are. Two or three hoeings are given. After the autumn rains the waterings are very rare. Pickings commence in October, and go on to the end of November, being eight to ten in number, at intervals of a week. The pickings are done by the women (at all events among the Jats); and the cotton and seed are separated by means of a gin or *belna*. Of the seed part is kept for sowing, and the rest given to the cattle (*varéwan*). It is a favourite food for the well cattle in the cold weather, and for milch kine at all times. *Tíl* is often grown with the cotton. It is also very usual to run a plough through the field while the plants are standing and sow barley, carrots, *metha*, &c., generally for fodder; but there is very often a decent crop of barley caught in this way. A cotton field may have in this way three or four crops in it at one time. There are no varieties of cotton. The usual short stapled sort of the Punjab plains with bushes three or four feet in height is grown everywhere.

Cotton.

Maize is sown at the end of July (from the beginning to the mid

Maize.

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Maize.

of manure. The best crops are raised in the fields next to the site. It receives the usual number of hoeings (three or four), and springs up very fast, reaching a height of seven or eight feet and growing as well in Bét, irrigated and unirrigated, as in Dháia land, provided that it gets sufficient manure. The crop ripens in sixty to seventy days, and is reaped at the end of October and beginning of November. There are generally two to four cobs on a stalk. Maize is the best crop of all for the cultivator. It does not require much labour in preparation, and few waterings are necessary if the rains are good. The yield is very great, the value of the crop being next to that of cane, while it has the advantage of a very speedy return. The zamíndár lives on maize for some months, and it is a good, wholesome food. The stalks are also very fair fodder, and last for some time. The ordinary maize of the Dháia has cobs about seven or eight inches in length, with a fair-sized seed of a yellow colour. A species known as *batálan* is grown in the Bét. It has a shorter cob and a smaller grain, but it is said to ripen in two-and-a-half months to three of the ordinary maize, and for this reason the seed is used by the Dháia people when there has been a break in rains and sowings are late.

Wheat.

Wheat is grown in the unirrigated lands of the Bét and of a few Dháia villages; and at the wells everywhere. It is sown during October and November, as the cultivator has time for it; the unirrigated crops being taken first, so that the moisture be not lost. The unirrigated lands, where not manured, have received a number of ploughings in the cold weather, or rather ought to have, for the ordinary Muhammadan cultivator of the Bét seldom does his duty to the soil. In the manured lands of the Bét and the irrigated Dháia the crop follows maize, in which case the preparation consists of two or three ploughings; or if the land has had a fallow, there have been winter ploughings as in the ordinary unirrigated lands. When the crop has sprung it receives in *niái* lands of the Dháia a top dressing of all the manure then available, and several waterings and hoeings. The waterings are at intervals of fifteen days at least. The crop is reaped towards the end of April, or the beginning of May. The grain is eaten or sold; and the straw used as fodder for bullocks.

Varieties of wheat.

The wheat grown everywhere is the bearded red variety common to the Province, and is called *kanak* or *gheo* or *lal kanak*. The grain of the Bét is said to be better than that of the Dháia (to a native's taste), as the flour is said to be more sticky when moistened and pleasanter in flavour. It appears to be a more moist wheat, like the English. The varieties to which special names are given are uncommon, and only grown in irrigated land. They are:—*mundi*, a beardless red wheat with a slightly higher stalk and a larger grain than the common kind. The yield is said to be better; but the straw is hard and not good for fodder. The flour is much the same. *Dudh-khání* or *dudhi* is a white wheat, also beardless, much the same in appearance as the last. The flour is very white, and much used by *halwáís* for making sweetmeats. The straw is said to be hard

growing to a height of four or five feet in good well land. The grain is large, but said to be hard and not good for flour, and the straw is refused by the cattle. The yield is superior to that of any other sort. It does not appear what foundation there is for the preference for the common wheat, or how much it is due to prejudice; but the use of these varieties is not spreading.

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The cultivation of barley does not differ from that of wheat.

Barley.

There are no recognized varieties, except a sort called *kābuli jau*, which is grown in places, and has a whiter grain than ordinary barley. Barley is much hardier than wheat, is sown later and ripens earlier, being in the ground about five months to six of wheat. Wheat cannot be sown later than November, but barley will germinate, and give some yield even when sown as late as the end of December. When the moisture in the soil has dried, and there has been no fall of rain in October and November, the zamindār will go on in hope of showers as late even as Christmas; and if there is rain at this time, he will sow late barley (called Kanauji), and get a very poor crop, which gives a yield, perhaps not one-quarter of a good one, but still something to keep him alive. Sowings are occasionally as late as January 10th; and if the subsequent rains are heavy, the yield of grain may be a very decent one, though the stalks are never more than one to one-and-a-half feet high.

Gram is not usually sown by itself. It appears to require a good deal of moisture to make it germinate, though the plant is hardy enough afterwards; and it is only in a year of heavy rainfall that a large area is sown with it alone. The people say that the crop depends entirely on the rain of Sāwan, *i.e.*, the earliest monsoon rains, and that if these are scanty, however good the subsequent falls may be, the crop will come to nothing. The sowings commence from the middle of September and go on for two weeks only, as it is useless to sow it after the first week of October. It is reaped, first of all the spring crops, early in April. Gram is not grown in the Bét, the soil not being suitable.

Gram.

The great unirrigated crop of the Dhāia is a mixture of gram with either wheat or barley, sometimes with both, and called *berra* in all cases. It is sown in October, not later than the end of that month, in land that has had a year's fallow, and been prepared during the winter by ploughings. The seed is drilled in, and every eighth or tenth drill is sown with *sarson* or rape. The *sarson* ripens first, and is cut at the end of March, the rest being ready about April 10th. The reason for sowing two crops together is clearly that both of them are not likely to fail in the same season. The *sarson* is something over and above the regular crop of the field; and, if a success, gives a handsome return. In some years the wheat or barley is the better crop, and in some the gram; but it must be a very bad year in which both, as well as the *sarson* fail. The *berra* is cut and threshed as one crop; and no attempt is made to reap the grains separately. The mixed grain is sold, and people seem to prefer the meal made of it, because it is cheaper than pure wheat, and still has some in it; but it is easy to separate the wheat and gram by means of a *chānna* or iron sieve, which

Mixed gram and
wheat or barley.

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Mixed gram and
wheat or barley.

Kharif pulses and
millets.

allows the wheat grains to pass through, and not the gram. But this is very rarely used as yet. *Sarson*, besides being grown in the *berra* fields, is also sometimes cultivated in irrigated patches as a single crop. *Tādmīra* (*Brassica eruca*) rarely takes its place. The *sarson* is either made into oil in the village presses, or brought to market and sold in seed. Almost every field of *berra* yields *sarson* too; but in our crop returns and produce estimates the land is only shown as under the former, as it is impossible to estimate the areas and yields separately.

The Kharif pulses are very numerous, the principal ones sown in the Dhāia being *moth* (*Phaseolus aconitifolius*), *mung* (*P. Mungo*), *māsh* (*P. Roxburgii*) with inferior varieties called *mungli*, *māhri*, &c. These are sown sometimes in July in land that has had a rabi crop, and reaped by the end of October. Light sandy soils are well suited to them, and a mixture of one or two of the varieties is the general crop. The yield of grain is seldom very good; but the straw is very strengthening fodder. Except in the lighter soils, which will not bear it, the kharif crop of the uplands is a mixture of the millets and these pulses. The great millet is either sown wide, when the object is to develop the heads for grain (*jowār*) or thick with a view to the fodder (*charri*). The times of sowing and reaping are the same as for the pulses. Where, as in the eastern portion of the district, there is a great deal of irrigation, and the well cattle are dependent on the fodder raised in the unirrigated land, the crop is always the mixture of *moth*, &c., with *charri*, except where the soil is sandy, and only a pulse can be grown. The crop grows up very dense, the millet having a very small head, and never reaching more than a height of about four feet. The people begin cutting the whole as green fodder in August, and go on using it for two months till the crop has ripened. The heads of the *charri* are occasionally picked for the grain; but generally the mixed crop is cut down and given without any attempt to get the grain of the pulses. It is intended that the cattle should get the grain as well as the straw; for it would be a short-sighted policy to keep out the former, as the cultivator well knows. In Jagraon tahsil there is not the same necessity for a strengthening fodder; and very fine *jowār* is grown. There is the same mixture of pulses; but the millet seed is in very small amount, and the stalks come up at intervals and grow to a height often of eight or ten feet, and have very fine heads, which almost weigh them down. The pulses also have a fair yield of grain; and only the straw and *jowār* stalks are used for fodder. In the Jangal villages the spiked millet (*bājra*) sometimes takes the place of *jowār*. In the Bét *charri* or fodder alone is grown, the soil not suiting the pulses of the Dhāia. There is no yield of grain. *Māsh* (called *māh*) takes the place in the Bét of *moth*, &c., but it is grown only in the new and moister lands adjoining the river. *Mung* is also grown alone or mixed with *māsh*; but *charri* is the sole Kharif crop in the lands of pukka Bét.

Massar and rice.

Massar (lentils) have been already mentioned as being sown in newly recovered Bét land for the first two or three years. The crop is cut for fodder or the grain is eaten as *dāl*. It is only

in the first year that it is grown by itself, the seed being usually mixed with barley. Barley and *massar* is the corresponding crop in the Bét to *berra* in the Dháia. An occasional field of (*alsi*) linseed will be found in the Bét. Rice (*munji*, *dhán*) is grown in places along the river in completely new land. It is a very coarse sort, and the market price is about 30 seers a rupee. The whole area under it is only 2,500 acres. When a new piece of land turns up, it is ploughed roughly a couple of times, the grass (*dib*) often being left standing, and the rice sown. There is perhaps no crop at all; but generally a fair yield. There is no transplanting, and the crop ripens in forty days from sowing.

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Arboriculture.*Massar* and rice.

These are the principal crops, and the remaining ones may be disposed of briefly. *San* (*crotalaria juncea*) is grown in the unirrigated lands in sufficient amount to make the necessary ropes for agricultural purposes. It is ready in October, and is cut and steeped in the village ponds, the process causing a most offensive odour. It is then taken out, dried in the sun, the fibres pulled apart and worked by the hand into thin ropes, which are again steeped and then beaten (skutched). These thin ropes are then twisted into others of the necessary thickness. *Sankukra* (*hibiscus cannabinus*) is grown round the edges of cane fields sometimes. *Indigo* is grown in a few Muhammadan villages, principally in the Bét. The green crop is steeped, and the dye made into balls after the usual native method. Poppies are grown in a few villages for *post* and a catch crop of *kanguí* or *chína* is occasionally taken at the wells in a bad year when the price of grain is high. Tobacco is grown at the wells in fields which have borne a Kharíf crop. It is sown in plots at the beginning of April, is transplanted in a week or ten days, and is cut in May. It requires a great deal of manure and constant watering. The Muhammadan cultivators of the Bét (Aráin, Gújar, &c.) grow a great deal; but there is also some in the Dháia. Melons, Musk (*kharbúza*), or water (*tarbúza*), are grown in the Bét, in unirrigated land. The crop is sown in April, and the melons come into the market in May, and go on through June. There is of course a very large demand for them in the city of Ludhiana; and the green-grocers (*sabzi furosh*) buy them from the cultivator by the field, when it is known what the crop is likely to be. The price realized is sometimes very high, and is generally Rs. 20 to 30 an acre. The expense of the manure is considerable; but the crop is a paying one to the cultivator. There is a second crop of water-melons in the Kharíf, sown in July and picked in October-November. Garlic (*lassan*) and onions (*pidáz*) are also grown after the rabi. In the Dháia the cultivator grows a few square yards of the latter for his own consumption; but in the Bét large fields are grown and sold to the green-grocers. *Lassan* fetches a high price, and is bought like melons by the field. Pepper (*mirch*) is also grown in the Aráin and Gújar villages. All sorts of native vegetables are grown in the wells in the Bét. They are *sonf* (*joeniculum vulgare*), *dhaniá* (coriander), potatoes, *arabi* (the edible arum), *salgam* (turnips), *múli* (radishes), *ajwáin*, *khíra* and *kakri* (cucumbers).

Miscellaneous crops.

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Rabi fodder crops.

Improvements
in agriculture and
staples.

The cotton at the wells is usually followed by a green fodder crop of *metha* (fenugreek), *senji* (trefoil) grown alone or mixed with barley, or by a crop of carrots, which are largely eaten by the people themselves and also given to cattle.

Mr. Walker thus discusses the past and future of agriculture in Ludhiána: "The agriculture which I have described in the preceding paragraphs is of much the same character as it has been for the last century or two. With the increase of population the land has come to be more heavily manured and cropped, but the manner of tilling it has remained unchanged. No new staples have been introduced within recorded memory. The agriculture is, I think, perfectly sound, and it would not be easy to show a Jat how he could do better with the capital at his disposal. A better sugarcane mill may take the place of the present clumsy machine, and improvements may be effected in the form of the plough; but I do not see that much is to be done in the way of introducing new staples or manures. There are some points in which the people might be instructed; but there are not many in the present system which could be pointed out as really faulty. A Jat would willingly adopt any real improvement within his means, as he is not prejudiced. For the ordinary cultivator of the Bét one has only to set up his neighbour, the Aráin or the Hindu Jat of the Dháia, as an example of what he might do."

Average yield.

Table No. XXI shows the estimated average yield in pounds per acre of each of the principal staples as shown in the Administration Report of 1881-82. The following tables give the estimates framed by the Settlement Officer for the purposes of the revised assessment.

Production and
consumption of
food grains.

The average consumption of food per head has already been noticed at page 54. The total consumption of food grains by the population of the district as estimated in 1878 for the purposes of

Grain.	Agriculturists.	Non-agriculturists.	Total.
Wheat	615,505	414,751	1,030,256
Inferior Grains	1,291,010	829,503	2,060,513
Pulses ...	889,082	640,980	1,530,062
Total ...	2,795,577	1,885,234	4,620,811

the Famine Report is shown in maunds in the margin. The figures are based upon an estimated population of 583,245 souls. On the other hand, the average consumption per head is believed to have been over-estimated. A rough estimate of the total production, exports and imports of food grains was also framed at the same time; and it was stated (page 151, Famine Report) that an annual surplus of some four lakhs of maunds was exported by rail eastwards, consisting chiefly of wheat and gram, with jowár and maize in smaller quantities. Mr. Walker writes as follows:—

"The district is self-feeding, and exports a good deal of food. The superior produce of the eastern half (sugar, cotton, wheat) is nearly all exported; but in place of this there is a large import of inferior grain (*berra* or mixed barley and gram, *jowár*, *moth*, &c.) from the Native States of the south, and our own

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Average yield.

Abstract statement showing for maize, uncleaned cotton, and wheat the average rates of yield per acre in seers for each class of land as assumed in the produce estimates.

NAME OF CROP.	NIAI CHÁHL.						CHÁHI BET.				KHALIS CHÁHL.						DOFASLI BET.				KHFASLI BET.			
	Lower DHAIA.			Upper DHAIA.			Samrāla.	Ludhiana Bēt Pucka I.	Do. Bēt II.	Jagraon.	Samrāla.	Ludhiana.	Jagraon.	Upper DHAIA.	Pawādh Ludhiana.	Tibāra Ludhiana.	Samrāla.	Ludhiana Bēt.	Do. Bēt II.	Jagraon.	Samrāla.	Ludhiana Bēt I.	Ludhiana Bēt II.	Jagraon.
Maize	480	600	720	800	800	880	480	500	520	800	480	600	680	600	600	680	300	340	240	280	..	280	240	240
Uncleaned Cotton	200	200	200	280	220	300	200	200	..	..	200	200	180	240	260	200	160	180	140	140	..	140	120	..
Wheat	400	400	400	600	440	480	400	400	400	400	400	400	480	500	580	520	240	280	220	240	..	240	220	220

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Average yield.

Abstract statement (similar to the one on the preceding page) for "berra" (i.e., wheat mixed with gram) "moth," "mung," &c (pulses).

Name of Crop.	DAKHAR AND RAUSLI.									BHUR.								
	LOWER DHAIA.			UPPER DHAIA.						LOWER DHAIA.			UPPER DHAIA.					
	Samrāla.	Ludhiāna.	Jagraon.	Samrāla.	Ludhiāna.	Jagraon.	Pawādh Ludhiāna.	Thāra Ludhiāna.	Jangal Ludhiāna.	Samrāla.	Ludhiāna.	Jagraon.	Samrāla.	Ludhiāna.	Jagraon.	Pawādh Ludhiāna.	Thāra Ludhiāna.	Jangal Ludhiāna.
"Berra" Wheat and Gram.	...	240	220	300	320	320	26	280	260	..	140	140	...	180	180	160	160	180
"Moth" "Mung" &c. (pulses.)	120	120	120	160	150	150	140	14	140	100	100	100	120	110	120	110	110	110

villages of the western parts. There is a very extensive export of these inferior grains from the western half of the district, principally by the railway which passes through it."

Calamities of season :
Drought and famine.

Of the calamities to which the agriculture of the district is exposed, the most important is here as in other districts—drought. The history of past famines has already been given in Chapter II (page 36). It will be evident from the general description of the physical conditions of the district, and that given of the agriculture in this chapter, that the effects of a failure of the rainfall on the various tracts are very different. The low-lying Bét suffers little from a mere deficiency of rain, for in the greater part of it, *i.e.*, all above Ludhiāna, the normal rainfall is high (30·27 inches), and the soil is naturally moist. On the other hand, too heavy a fall often injures the crops. The annual floods of the river cover the country to a distance of one or two miles from its regular banks along the whole course of 60 miles; and the percolation reaches much further. Parganah Nūrpur, which is the lower half of the Ludhiāna Bét, has a considerable proportion of irrigation, while the Jagraon Bét is all under the direct influence of the river. In the uplands of the Samrāla tahsil there is 40 per cent. of irrigation, and in the east of Ludhiāna, 25 to 30, the rainfall varying from 30 to 25 inches. In the south-western parts of Ludhiāna (about Pakhowāl) and in Jagraon tahsil we have a rainfall decreasing from 25 to less than 20 inches, and the proportion of irrigation 15 in the former, while it is only 8 per cent. in the uplands of Jagraon. Finally in the Jangal detached villages the rainfall is 17 to 15 inches; and there is no irrigation. A failure of the autumn rains affects the whole of the uplands to some extent. In the highly irrigated tracts of the east the well cattle depend on the fodder grown in the unirrigated fields and on the grass; and a deficiency of fodder means that they will be much underfed

while at the same time they are worked much harder than usual, for the Kharif well crops require more frequent waterings. These Kharif crops are much improved by rain, as well water only reaches the roots; but an average yield is obtained from them in a year of deficient rainfall. When the time for the Rabi sowings arrives, if the rain still holds off, the wells are worked incessantly, and water is taken to all fields within reach, sometimes to very great distances, in order to produce the necessary moisture for the germination of the seed. It is probable that nearly 20 per cent. of the cultivation of tahsil Samrāla can be covered in this way, besides the 40 per cent. regularly irrigated. The supply of water in the wells is of course limited in most villages, particularly in such a season as that in which it would be used for this purpose; but the cultivator is willing to neglect his Kharif to some extent in order to insure a sowing of the unirrigated Rabi. There is likely to be some rain in the winter, and the fields sown will then have a good crop without further assistance. But, if the rain is not sufficient for sowing, a large area of the stiffer soils must always remain uncropped, and the cultivator loses this; while probably one or two of his bullocks give way. He will generally have enough grain in store to put him over the bad season with the aid of what he gets from the land irrigated and unirrigated on which he has raised a crop; and he will sow patches of carrots, *chini*, &c., at his well. Carrots appear to be the great article of food on which the cultivator falls back on such occasions wherever wells work, and the praises of the vegetable are celebrated in the popular rhyme:—

Gājān gajrālī; chaja parbhat dhārī :
Bānhān, tangān sukhia; kite tid usāre.

A bad season, *i.e.*, the failure, total or partial, of two harvests—for the Rabi will never be much if the Kharif is bad—may or may not leave the cultivator in the money-lenders' books for the price of a bullock or for some grain, this depending on the state of his pocket and the amount of grain he had to start with. A second bad year, one in which the fodder dried up, and the wells had to be used for sowing the Rabi, would be likely very seriously to cripple the resources of the whole population, and involve them in debt to a large extent. Such was the calamitous famine of 1783 A.D., but the conditions are much altered since then owing to increase of irrigation; and such an event is not likely to occur even once in a century. In the western parts a failure of the autumn rain means the loss of both harvests over a large area of unirrigated land, although the wells can be used for sowing the Rabi here also, and some villages on the Ferozepore border have wells which are used to a very limited extent in ordinary years, having been sunk as something to fall back on in a year of drought. But the whole area so protected is limited, and the loss of the fodder crops would be followed by a great mortality amongst the cattle. In 1860 and 1868, the last occasions on which there has been anything resembling a drought, the people from the Jangal began in August and September to swarm over the country in search of straw and other fodder. As the drought continued, every one wanted to dispose of at least some of his cattle, and the price fell till a good

Chapter IV, A.

Agriculture and Arboriculture.

Calamities of season:
Drought and famine.

Chapter IV, A.**Agriculture and
Arboriculture.**Calamities of season:
Drought and famine.

bullock would not fetch a few rupees. Then the cattle began to be turned out ownerless, and died all over the country. But the people themselves were well off. Mr. Walker writes : " Most families will be found to have in store at any time the grain of two Rabi harvests ; and many of three or more, especially if the seasons have been good everywhere and prices low. The Jats watch the market very keenly, and sell what they calculate they can spare at the most favourable time. What suits the villagers of these western parts best is to have good harvests here, a famine somewhere else, and the consequent high prices. Such was the combination in 1877-78, when famine prices followed very fair harvests throughout the district, owing to the drain towards the Deccan. But, even if the season has been a bad one in the district, most land-owners will be found to profit by famine prices, provided of course that the stocks have not been depleted in previous years ; and I doubt if they ever will be again unless by two bad seasons in succession and the failure of all four harvests. The immense profits made by the sale of grain in the three years—1860, 1868 and 1877—has greatly encouraged the storing of it ; and I believe that another year of famine prices would find the stocks in the houses of the agriculturists much larger than they have ever been before. If the succeeding year is a good one, the cultivator has probably more than recouped his losses by the profits on the sale of his grain, and can purchase cattle to make up for what has perished. But in all probability he had more to start with than were actually required for his simple agriculture, and can go on for a year or two with a reduced number. A second bad season would of course do injury more or less according as the failure of crop was total or partial. There would be a further and more general loss of cattle ; and the cultivator would have to keep all his grain for his own consumption. There has, happily, been no such combination under our rule as the complete failure of four harvests in succession ; and, as within the next two or three years, the distributaries of the Abohar and Bhatinda branches of the Canal will have brought the means of irrigation within the reach of every village that requires it in Jagraon and in the south and west of Ludhiána, we may say that its occurrence has now been rendered impossible. When the irrigation from the Canal has been fully developed, there will be no part of the uplands with less than 25 or 30 per cent. of its area protected."

Minor calamities.

Some of the minor calamities of season and of the pests from which the crops suffer, are noted below :—

Agat.

Agat or *Agat* is a north wind which blows for a day or two about Bhádon 22nd (middle of September), and breaks the maize stalks, besides injuring in a less degree the cane and cotton. The name is that of a demon who is supposed to cross the country on his way from the hills to Ceylon, and to spread ruin amongst the crops in his course, which is generally only a few miles wide. His advent is followed by the appearance of the bird called *mamola* (wagtail) ; and is really the beginning of the cold weather. Witness the couplet :—

“Bhádón! by your 22nd day Agat sets out for Lanka; the streams and water become controlled; the butter hardens”

Chapter IV, A.

Agriculture and
Arboriculture.

Frost.

Blight.

Hail.

Lightning. Insects :
Locusts.

Caterpillars.

Kungi.

White ants

Frost does a good deal of harm (*pála márlíá* is the expression used) to the cane and to the late cotton (sometimes), as well as to the *sarson* in the Rabi. It does not appear to affect the wheat and gram; but the wheat and barley, when the grains are forming in the heads, are very liable to be blighted by cold winds from the north or west, the east winds are always mild. This is called *bullá márlíá*; and the people have no very clear account to give of what happens. They say that they find some morning that the grain is blighted, and the heads turn yellow and wither. Hail storms (*golá, galla*) occur almost annually somewhere or other in the district, either in the month of October or in March. The Kharif or part of it is generally reaped at the time that the autumn storms come; but considerable injury is sometimes done to the pulses. The Rabi always suffers severely from hail when it falls, the wheat and barley stalks being snapped, and the gram pods broken off. In a few days the crop gets a yellow withered appearance. A hail-storm generally passes across some part of the district to a width of one or two miles, but the total injury done is never very considerable, only a few fields in any village being affected as a rule. Lightning does occasional injury to fields of cotton pulses and *san* in the autumn. Locusts (*ahn, tid*) appear at places every third or fourth year, and go across some of the villages in a line two or three miles wide, eating up everything. Their appearance is generally in September-October (Bhádón-Assoj). Their ravages have never been so extensive as to cause a general calamity; and the injury is usually partial, like that of hail-storms. They have not appeared now (1883) for five or six years. *Sondi* are green caterpillars which attack the gram and *sarson* stalks. Good rains in the cold weather will kill them; but if the rains are short, they are most destructive to unirrigated crops; much worse than locusts, because they are universal and come every year. They live in holes, and come out during the night to work. Hard soils suffer most. And in places at least half of the gram crop is sometimes eaten by them. *Kungi*, or red rust, is said by the natives to be caused by a tiny insect that appears on the wheat or barley heads when rain is followed by clouds. It affects the crops in Mágh-Chét when the ears are beginning to form, and covers them with a fine dust, yellow or red, under which the grain shrivels. General injury is done by *kungi* at rare intervals, the last bad year for it having been 1875. It often appears, but a few days of sunshine drive it away. *Kungi* affects irrigated as well as unirrigated crops. Young cane plants are attacked by a caterpillar called *kansua* and full grown cane by small insects called *téla* (black) and *punke* (white). *Téla* also attacks cotton. Cane and cotton are cleared of these by rain, otherwise the juice of the cane becomes watery and poor. White ants (*seonk*) attack the roots of the unirrigated Rabi crops in all soils, and do a great deal of injury in some years. The cure for them, as for all other pests, is rain.

Chapter IV, B.

Livestock.

Rats.

Jackals, pigs, deer.

Scarecrows, &c.:
watchmen.

Field rats also do some harm in light soil, but have never come to be much of a pest. *Sondi* caterpillars and white ants do much more injury than anything else to the unirrigated crops. Jackals eat the maize all over the district, and the destruction caused by pigs in the villages under Ludhiána has been noticed in Chapter I (page 18). Herds of deer wander all over the fields, but they are not so numerous as to cause much injury. People put up in places sticks with cloth attached to scare the deer off (called *darne*). Platforms (*nanna*) are erected on the trees or on sticks stuck in the ground for the purpose of watching the maize and jowár fields, and boys sit on these screaming and firing mud pellets from slings (*gopia*). A rude fiddle made of half a gourd, with a piece of gut stretched across it, is used in the Bét for frightening the pigs from the cane. The noise may be heard at a great distance. The cultivators also light fires along their fields for the same purpose, and have to watch all night. In most villages a *rákhi* or watchman is appointed, whose duty it is to wander about the fields and see that cattle do not stray amongst the crops. If cattle are caught trespassing, the owner is fined a couple of seers of grain, which is paid to the watcher, who also receives an allowance from the whole village at harvest time. Watching at night is not usual, except where, in places, the habit of pilfering from the fields has become common, or in the neighbourhood of Hární villages, or of the towns.

Arboriculture and
forests.

The subject of arboriculture has already been noticed in describing the flora of the district (page 9). The roads under district management have good avenues of *shisham*, *siris*, and *kíkar*, &c., and the Grand Trunk Road is also lined with trees in places. There are two plantations under the Forest Department; but the absence of waste lands puts out of the question any project of raising them in village areas. There is quite as much wood grown as the people require for ordinary purposes.

The following note on the forests of the district has been kindly furnished by the Forest Department: "The Ludhiána plantation reserve consists of a long narrow strip of 197 acres, was commenced in 1867-68, and is composed entirely of *shisham*. It is situated on the Grand Trunk Road, midway between the left bank of Sutlej and Ludhiána. The produce has been sold to and cut and removed by the Sindh, Punjab and Delhi Railway for the supply of material for the Sutlej river training works. Reproduction is progressing favourably by coppicing. The soil is good sailába, and subject to annual inundations by the Sutlej."

SECTION B.—LIVESTOCK.

Enumeration
of cattle.

From what has been written in Chapter I as to the absence of grazing ground, it may be inferred that the district is not

found in Table No. XXII. The District Returns of Livestock for 1882 show the following details :—

Cows, bullocks and buffaloes	...	...	...	270,238
Horses and ponies	...	...	...	1,815
Donkeys	...	...	...	7,430
Sheep and goats	...	...	...	68,505
Camels	...	...	...	1,811

Chapter IV, B.

Livestock.

Enumeration of cattle.

An enumeration was made by the patwāris in 1879, which gave the following results :—

Draught cattle (buffaloes and bullocks)	...	...	...	137,665
Milch kine	...	...	...	108,851
Young stock	...	...	...	96,983
Horses and ponies	...	...	...	3,155
Sheep and goats	...	...	...	50,408
Camels	...	...	...	1,849

Mr. Walker writes of this enumeration : “The cattle in the towns did not come into our enumeration ; and for these we ought to add about 18,000 to the milch kine and a good deal to the sheep and goats. I fear that I cannot claim very great accuracy for our figures ; but they are probably not far out. The district returns are an estimate by the tahsildārs.” During 1879-80 the district supplied to the Transport Department 3,500 camels, besides some mules and ponies. Many of these doubtless came from across the border.

Bullocks are universally used for agricultural work ; and he must be a very poor man who can only afford a buffalo, this animal being considered the sign of poverty in a cultivator. The bullocks are either bred in the villages, or imported from the cattle-breeding tracts to the south, (Hānsi, &c.), being brought up in droves by dealers who go from village to village, generally a few weeks before the Baisākhi and Dīwāli fairs, on their way to Amritsar. There are no cattle fairs in this district. It is difficult to determine exactly what proportion of the cattle used in agriculture are bred in the district ; but it is probable that between three-fourths and half of those in Samrāla are imported. In Jagraon there is still some grazing land left, and the greater part of the cattle in use are probably bred in the tahsīl ; but there are also large purchases from dealers. The people of the Jangal are very fond of buying cattle, using them for the few months during which agricultural operations go on, and then selling them, thus saving the keep for several months. The home-bred cattle are said to be better for the work than those imported, because, apparently, the former are stall-fed all their lives, while the latter, having been raised on grazing, feel the change, and cannot do well on the straw which they have to eat for a great part of the year. A bullock costs from Rs. 20 to 25, if two years old ; and Rs. 40 to 60, if of full working age. At two years old he is yoked in the plough ; and works in this till he is four, when he is put to the well. Bullocks go on working till twelve ; but at that age they are old, and they do not live beyond fourteen or fifteen. In Samrāla and the highly cultivated parts of Ludhiāna they do not last so long, on account of the constant hard work in the sugarcane mills and at the wells. Where (as in Jagraon) the people keep

Draught and plough cattle.

Chapter IV, B.

Livestock.

Food of draught
cattle.

carts, the quality of the draught cattle is superior, and one sees some very fine bullocks in those parts, much higher prices being paid, and the animals being better looked after. In the Bét the cattle are of a very much inferior stamp, as they are only required for the plough. They cost Rs. 15 to 20 each, and are bought anywhere.

In the months of Baisákh, Jét, Har (April-June) the cattle are fed on dry straw and grain, the new straw of the Rabi coming in by the first of these months. This is the worst time for them, and the working cattle could not get on without the seer or two seers of grain that they get daily. In Sáwan and Bhádon there is good grass in the waste, if any is left, and in the fields intended for the next Rabi, where it is allowed to grow till the time of the Sáwan ploughing. The cattle are grazed on this, and it is also grubbed up and given to them in the stall, the grain being stopped. Cutting grass is the work, in Jat villages, of the women, who are out all day in the fields, collecting bundles. The cattle have very light work in these two months, because the wells are not working; and between this and the new grass they put on condition. In Assoj and half of Kátak (September to October) green fodder, either *charri* alone or mixed with *moth*, &c., is given; and this is perhaps the best time of the whole year for the cattle. At the end of Kátak the *charri*, &c., is cut and stored, and during Magar, Poh, Mágh, and Phágan the dry stalks of *charri*, maize, &c., are given, and, if necessary, straw. The straw is either white (*saféd bhúsa*), that of barley and wheat, or *missa*, i.e., of *moth*, *másh*, &c., coloured straw. The latter, especially the *moth* straw, is said to be very strengthening. In the month of Chét (March) patches of green fodder are grown at the wells, either *methu*, *senji*, &c., or carrots; and green wheat or barley is also given, but not commonly in an ordinary year.

Milch kine.

The number of milch cattle is not more than sufficient to supply local wants. There is no attempt to keep cows specially for the sale of milk or of *ghi* except in a few Gújar villages mostly close under Ludhiána; and in these the milk is generally bought up by people from the city. Our enumeration would show a cow to every five or six of the population. In the Bét buffaloes and cows are generally kept; and in the Dháia cows. The milk is boiled and churned in the usual manner in a *chátti* of earthenware by means of a wooden staff (*madhání*) twirled round in the hands or by a string. The people of the house use the butter-milk (*lassi*) which forms a very important part of the cultivator's daily food; but the *ghi* is generally sold or kept for the occasion of a marriage, &c. The whole supply is not, however, more than sufficient for the consumption of the better classes in the villages and in the towns.

Loss of cattle by
disease : Insufficient
food : Drought.

A good deal of loss is caused annually by cattle disease, and attempts are being made to disseminate information on the subject. The names given by the people are so various, and their accounts of the causes often so fanciful, that it is not easy to identify the different diseases that prevail. Great mortality occurs from overwork and insufficient food, especially in a year of drought. In the

crop is grown for fodder; and a failure of the autumn rains means that the cattle will get no grass or green *charri* in the autumn, and no dry *charri* in the months of the cold weather; while they are at the same time deprived of their usual rest of two or three months, and have constant work at the wells. It is not possible that cattle should go all the year round on dry straw and grain. The first effect of drought is to reduce the condition of the cattle, and to render them very liable to the ordinary ailments if they do not actually die of overwork and starvation. There was a considerable loss in this way in 1861 and 1868, but not in any other year since the Regular Settlement. Besides being sadly overworked and often insufficiently fed, the cattle in the eastern villages are very badly housed. They are taken home inside the village, and penned up in houses a few feet square, while their masters are enjoying the fresh air on the roof of the house. In the western parts they have much better accommodation, and get plenty of fresh air.

Sirak and *bawa* are terms used to denote any form of epidemic disease; also *marri*. Only two true epidemic diseases amongst cattle can be identified, of which the first appears to be either anthrax fever or malignant sorethroat. It is called *gal gotu*, and is very deadly in its effects, and also most infectious, attacking buffaloes and bullocks alike. The affected beast gives up its food, and a swelling forms in the throat. This appears to burst internally, and the majority of animals affected die the day after the appearance of the first symptoms. No attempt is made at a cure; but it is said that, if purging sets in the second day, the animal will recover, unless it dies of exhaustion in ten or fifteen days. The disease is always present somewhere in the district, and when a village becomes infected, it will lose fifty to a hundred cattle in a few days. Recoveries are rare. No attempt is ever made to prevent the spread of the disease by isolation, burying carcasses, &c. It is said to be carried from one village to another by carrion-eating birds, storks in particular.

Foot and mouth disease is called *monkhar* or *morkhur* (also *rora* and *chúpia*), and is common. It is never very deadly; but the cattle affected are useless for a long time. It appears to be very infectious, and crops up here and there almost every year. The first object to which attention should be directed is obviously the prevention of the spread of these epidemics from village to village and inside of villages; and it will, of course, be very difficult to induce the people to do anything for themselves in the matter.

Of the ordinary ailments, *ogu* appears to be epilepsy, or paralysis, the beast affected generally falling down and dying in a short time. *Tilla* and *hallu* are the effect of cold, and attack buffaloes only, the symptom being difficulty of respiration. *Mokh* is purging in any disease. Rinderpest does not appear to be amongst the diseases which attack the cattle of the district. Cattle are often lost by overfeeding with *methe* or other green fodder after having had poor food for some months. When there is a break in the rains, and the *charri* is stunted (called *sokha*), cattle getting into the field and grazing fall down and die. This is called *patha lag gana*, and is apparently choking.

Chapter IV, B.

Livestock.

Loss of cattle by disease: Insufficient food : Drought.

Diseases prevalent.

Foot and mouth disease.

Ordinary ailments of cattle.

Chapter IV, B.

Livestock.

Horses.

The people of the Dhāia are not fond of keeping horses, considering them a useless expense. The distances are generally short, and the people prefer walking. Of the lambardārs even it is only one in a hundred who owns any sort of an animal, or has ever been on one. Our enumeration shows about three horses or ponies to each village. In the Bét, where there is a little grazing, the Muham-madans have a few weedy ponies, but these are of a very poor breed. In the villages to the south-west of the Jagraon tahsil (Mánoke, &c.) there appears to be something like a better breed of horses, but these belong to the better classes, and there are after all very few of them. Government stallions are kept at Ludhiána and at Jagraon. In one or two of the villages to the south-west of Ludhiána the proprietors are engaged in the horse trade (Burj Latan, Aliké, Dhingar, &c.). They buy young animals all over the country, feed them up for two years, and sell them at Batesar and other fairs across the Jamna. This trade is not of any importance.

Government horse-breeding operations.

A portion of this district, as well as of the districts of Ferozepore and Sirsa, abuts on a tract of country extending about 50 miles all round the Patiala fort of Bhatinda, which is called the Jangal, and the horse of which tract is well known as the *Jangal* horse, the breed being descended from Arab stallions kept at Bhatinda by the Muhammadan Emperors. Patiala still keeps stallions there but of inferior quality. The mares of the Jagraon tahsil, which abuts on this tract, are of a very fine breed; and in 1877 the Punjab Government gave at first two and eventually four horse stallions and three donkey stallions, of which one horse and one donkey are kept at the Jagraon tahsil, and the rest at the Sadr. Of the four horse stallions two are imported English and two are Stud bred from Arab stock; of the three donkey stallions one is of French, one Persian and one Arab breed. There are 166 branded mares for the horse stallions, and 134 for mule-breeding. There is a Salútri zilladár who has gelded 78 colts: 51 colts descended from this stock have been purchased by dealers. The system has been at work five years, and bids promise to become a great success. There are no horse fairs held in the district, and a proposition is under consideration for establishing a horse and cattle fair at Ludhiána. The owners of stock are showing a tendency to comply with the instructions of the Horse-breeding Superintendent as regards the rearing of colts; and, as above noted, the custom of gelding the colts is making most satisfactory progress.

Camels.

Camels are kept by the people of most of the Jangal villages, and by those of a good many others scattered over the district where it has become the custom to do so. It is very common for an enterprising zamindár to purchase two or three camels with any savings that he has, and to start in the carrying trade. The Jats are very fond of turning an honest penny in this way; and where carts will not work, as in the Jangal villages, camels are used for bringing up the grain to market. The Kábul campaign of 1878 is said to have nearly cleared the district out of camels. Mr. Walker writes: "I know of one large village in the Jangal in which there were formerly a good many; but when I visited it in 1880 there was not a single one left: and what was worse

the people said they did not intend to keep any more. Since then compensation has been paid; but I doubt if confidence has been restored, and I am afraid that, if Government should again have need of camels, it will not get many from this district. Compensation to be effective ought to follow immediately after a loss, for the ordinary rate of interest or profit that a zamíndár expects is 25 per cent. per annum.

Sheep and goats are returned as sixty to seventy thousand in number. They are kept in every village, the goats for their milk and the sheep for their wool. They belong to no special class of the community, and require no separate mention here. Donkeys and mules are used by Kumhárs or brick-makers. There are very few pigs. Fowls are not to be found, except in Muhammadan villages, and there they belong to low caste people, generally Chúhras. There are ducks and geese in many villages along the Budha, and a large number are reared in the old *Chaoni* or former military bázar. These find their way to Kasauli and Simla, and there is rather a busy trade in them.

Chapter IV, C.

Occupations,
Industries, and
Commerce.

Sheep and goats,
and miscellaneous.

SECTION C.—OCCUPATIONS, INDUSTRIES
AND COMMERCE.

Table No. XXIII shows the principal occupations followed by males of over 15 years of age as returned at the Census of 1881. But the figures are perhaps the least satisfactory of all the Census statistics, for reasons explained in the Census Report; and they must be taken subject to limitations which are given in some detail in Part II, Chapter VIII of the same Report. The figures in Table No. XXIII refer only to the population of 15 years

Occupations of the
people.

Population.	Towns.	Villages.
Agricultural ...	18,174	337,220
Non-agricultural ...	84,878	199,663
Total ...	83,052	535,783

of age and over. The figures in the margin show the distribution of the whole population into agricultural and non-agricultural, calculated on the assumption that the number

of women and children dependent upon each male of over 15 years of age is the same, whatever his occupation. These figures, however, include as agricultural only such part of the population as are agriculturists pure and simple; and exclude not only the considerable number who combine agriculture with other occupations, but also the much larger number who depend in great measure for their livelihood upon the yield of agricultural operations. More detailed figures for the occupations of both males and females will be found in the Census Report of 1881. The figures for female occupations, however, are exceedingly incomplete.

Table No. XXIV gives statistics of the manufactures of the district as they stood in 1881-82. Of the number of "private looms or small works" there shown, the following are in the town of Ludhiána: Cotton 400, wool 500, other fibres 85, wood 200, iron 50, brass 23, building 600, dyeing, &c., 80, leather 200, pottery, &c., 50, oil 200, pashmínah 900, carpets 2, jewelry 100, other

Principal industries
and manufactures.

Chapter IV, C.

Occupations,
Industries, and
Commerce.Principal industries
and manufactures.

manufactures 300. The greater part of the entries refer to village weavers and artisans. The manufactures of Ludhiána city will be described in Chapter VI (page 218).

The rural population of the district is not engaged in any particular manufacture or industry. The menial classes and artisans of the villages make sufficient clothes, shoes, earthen dishes, &c., for the use of the cultivators. Weaving is always done for wages, the wool or cotton being supplied to the weaver, who gets paid for his work. Coarse cloth (*khaddur*, &c.) sometimes finds its way into Ludhiána from the villages, but there may be said to be no separate weaving industry out of the city. In a few villages local artisans have established a reputation for some special manufacture, such as Lalton and Sahna, for dishes of brass and *kánsi* ware; Raháwan, for locks and other iron-work, and also for stamping clothes; Samrála and Dherru, for iron-work. The towns of Machiwára and Bahlolpur are famous for their *súsi* cloth, and the former also for its jewelry.

Sugar industry.

The principal manufactures for export are the *gur* and *shakar* (raw sugar) made by the cultivators everywhere in the Dháia from the sugarcane; the *khand* or *búra* (refined) made at Máchiwára and in its neighbourhood, and the cloths of Ludhiána. An account of the manner in which the cane juice is boiled into *gur* or *ráb* have already been given in Section A of this Chapter (page 136); and further details will be found in the extract given below from the Settlement Report. There are about 70 *kháncáis* in Máchiwára, and 30 more scattered over the Bét belonging mostly to Khatris, but also to Bániás, Súds and even Jats. The outturn of each press is estimated at upwards of Rs. 2,000 value in sugar (*búra*, *khand*) and treacle (*sírah*); and in a good year for the trade, when sugar is dear, the contents of a *kháncái* may be worth Rs. 3,000.

Mr. Walker describes the process of manufacture as follows in an appendix to his Settlement Report: The processes of manufacture employed in the Bét and in the Dháia or uplands are quite distinct, and an account of the latter will be given first. When the season for pressing approaches (November to March) the *belna* or mill and other appliances are put in order. The mill used throughout the district is of the sort described in "Punjab Products." The day before the cultivator's *rári* or turn at the mill, the cane is cut and stripped in the field, and the parts reserved for seed set aside. The cane is then carted to the mill in the evening, and next day it is pressed and the juice extracted. Two men sit at opposite sides of the rollers passing through the cane, which is tied up in bundles of 40 or 50 canes each. The juice runs into *cháttis* or jars of earthenware placed beneath the rollers to receive it. As the jars are filled the juice is taken into the boiling-house, and the boiling commences. At one end of the boiling-house there are two pans of iron, about four feet in diameter, placed over a flue heated by a furnace fed from the outside of the building, the fuel being the refuse stalks, heads, &c. The pan nearest the wall is lower than the other, and is fixed, and into this the juice is poured. The second pan is higher and movable. When the juice has

been boiled and evaporated in the lower pan for half an hour, it is lifted with a ladle into the upper pan, which is cooler: and there boils more slowly till it is ready, generally in about an hour. The pan is then lifted off, and the juice stirred till it is cool, when it is poured into a flat dish of earthenware, where it lies to the thickness of about one or two inches. It is, when cool, scraped up with a wooden scraper, and is either granular, in which case it is called *shakar*, or viscous (*gur*). If *gur*, it is made up into balls of about four seers weight. *Shakar* is put into earthenware jars. It depends entirely on the quality of the juice whether the produce takes the form of *shakar* or of *gur*: and this depends again on the soil and the character of the season. In the above process no chemical appliances are used; but in places lime and water are poured into the boiling juice to clean it, the scum being removed. This is generally done where *shakar* is produced, and has the result, it is said, of giving it a light colour, which is a recommendation. The total number of men employed on pressing and boiling is generally seven: two to drive the bullocks, two to feed the mill, and one to hand the cane to the feeders, one in the boiling house, one to feed the furnace outside. The last is a *Chamár* or menial; but the other six are all of the cultivating class. The Hindu Jats of the Dháia not only make but sell at their own price and when they choose their *gur* and *shakar*.

The state of things in the Bét, where the population is all Muhammadan, is very different. The process of manufacture there is of two parts: the juice is extracted and boiled at the *belna* in much the same manner as in the Dháia; but takes the more liquid form of *ráb*. Only one pan is placed on the furnace; and, when two jars are filled with juice they are emptied into this through a straining cloth, and the juice, boiled. Water boiled with *sakhlaie* bark is added for the purposes of purifying the juice, and the scum is removed as it rises. The boiling takes about 2½ hours. When the boiling is completed the juice, now in a semi-liquid state and called *ráb*, is taken out in a ladle, and put into an open vessel of earthenware till it cools, when it is poured into high jars (*matti*), the mouths of which are then closed with mud. These jars hold about 3½ to 4 maunds (pucka weight) of *ráb*. The boiler, called *rábi*, is always a man of the shop-keeping class, boiling being something of an art. The other men at work are, as in the uplands, cultivators or village menials. But the cultivator has really nothing to do beyond extracting the juice. The second part of the process of manufacture is completely in the hands of the shop-keeper class, the head-quarters of it being in the town of Máchiwára, which lies just over the Samrála Bét. The *ráb* is taken off in the jars to the shop of the purchaser, in the back room of which, in one of the corners, a space (*kháunchi*) four or five feet square is walled off to the height of about four or five feet. At the bottom of this, about a foot from the ground, a rough strainer is made of sticks fixed in the walls and running across at intervals, on the top of which are placed reeds and on the top of these a coarse cloth. The sides of the *kháunchi* are lined with *chitai*,

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or matting made of river grass. When twenty or thirty jars have been collected the *ráb* is poured into the *kháncchi* and left for twenty or thirty days, during which the *sírah* or more liquid part drains off into a receptacle. The *ráb* is then covered with a weed that grows in the water, called *jála* put on to the depth of two or three inches (see name at p. 308 of "Punjab Products"). This is changed every three or four days for about a fortnight. The effect of this covering and the straining is to clarify the mass; and, as the upper part assumes a light yellowish colour, it is taken off, and the remainder covered up again. The produce thus taken out is put in the sun and trampled. It is then called *khánd*. Another and superior form of produce is *búra*, which is thus made. The *sírah* is strained off as for *khánd*, and the *khánd* is mixed with one-fourth part water and boiled for evaporation in a pan for half an hour. It is then taken off and stirred till cool, when it takes the form of *búra*. The *sírah* or *lét* (molasses) is boiled and kept in jars till the rains, when it is treated like *ráb*, being put into a *kháncchi*: or if it is not good enough for this, it is used in its liquid form for sweetmeats, &c. Detailed information regarding the prices and the course of trade will be found in the appendix to the Ludhiána Settlement Report from which the above extract is taken.

Mr. Kipling's note.

Mr. Lockwood Kipling, Principal of the Lahore School of Art, has kindly furnished the following note on some of the special industries of the district, while further information taken from the Settlement Report will be found in Chapter VI (page 218):—

The manufactures of Ludhiána are similar to those of Amritsar, with the addition of colour-woven cotton goods. The Kashmiri immigrants who are the bulk of the artizans are said to have arrived at Ludhiána in 1833, when there was a famine in their country.

Shawl trade.

The production of fine shawls has now almost ceased. The Franco-Prussian war put a sudden stop to the manufacture of shawls above the value of Rs. 100. Incidentally it converted the populations of Amritsar and Ludhiána to warm partizanship of France. Crowds of eager listeners used to collect at the railway station where the telegrams from the seat of war were read to them and received with loud expressions of satisfaction or disappointment as the French seemed to gain or lose.

The decline in the French demand, however, was not the only cause of the falling off, which reduced the number of pashmínah looms from 1,200 to 300. The Government, and dutifully following its example the Durbars of Native States, no longer take good shawls to be given as *khillats*. The few shawls that appear on the trays laden with carriage clocks, gold-mounted rifles, musical boxes, epergnes and other knick-knacks presented at Durbars frequently travel back to the *toshakhana*, and might almost be considered as State theatrical properties. The management of the London sales to which goods are sent from Amritsar and Ludhiána has been more in the interest of the London buyer than in that of the distant maker.

Syud Ahsán Sháh, an honorary magistrate and shawl merchant of Ludhiána, writes that there is "dishonesty and combination

among the principal bidders, who purchase the lots at very low prices, and then divide the profits among themselves. A Parsi gentleman, named Hormasji, who was present at the auction in London, says that bigger merchants make a combination and stop all competition from petty traders. They purchase the lots themselves at very low prices, and then sell them to petty traders at a great profit. They also put the balance of their old stock to auction with a view to reduce the market value of fresh goods imported from India, and again purchase them to their advantage. Large stocks of goods for sale and want of competition thus reduce the market value of the goods, and traders are obliged to part with their stocks at a loss. The shawl trade has consequently declined, and out of 300 looms only 200 now turn out superior stuff, the rest manufacture coarse stuff only."

From this it would appear that "the knock-out auction" is not confined to Jew furniture brokers, and the lower ranks of commercial life in London. It must be admitted that the practice of consigning annually large quantities of goods to a limited number of dealers to fetch what may be given invites combination of the kind described by the worthy Magistrate of Ludhiána. The traders on this side are neither strong enough or united enough to combine to establish their own agency in London, nor would they be able to reach the limited and select market now commanded by a ring of dealers. On the part of these latter it is only fair to say that they complain at times of the adulteration of goods professing to be pure pashmínah with inferior wool. It is indisputable, however, that, on the whole, the Indian producer gets the worst of it, and it is heartily to be wished that he could find a direct means of reaching the purchasing public in Europe. In some years consignments have turned out more disastrously to the exporters than would be readily believed, and the fact that Indian goods may be sometimes purchased retail in Regent Street at a lower price than any dealer will part with them for in India, is one corroboration of their complaints. The merchant already quoted gives the following average prices of the pashmínah goods now made.

Rampuri shawls, four yards by two, first quality, Rs. 60 each; second quality of the same size, Rs 15. A shawl three yards by one and a half of good quality is worth Rs. 20, and the smaller size of inferior make Rs. 8. Good woollen stuff, double warp and woof, Rs. 8 to Rs. 20. Jamawárs, striped colour-woven fabrics, from Rs. 5 to Rs. 20. *Chadar joras* used by natives from Rs. 20 to Rs. 50, and *Rumáls* from Rs. 10 to Rs. 50. Syud Ahsán Sháh estimates the annual outturn of the Ludhiána manufactures as follows:—

Rampuri Shawls	...	..	Rs.
Doshalás	...	..	70,000
Jamawárs	..	..	20,000
Rumáls	..	..	6,000
Small Chádars	..	..	1,000
			1,000

In all about

Rs. 1,00,000

The trade, it will be seen, though it is a comparatively recent one, dating from 1833 only, has undergone some vicissitudes which

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Cotton goods.

began before the Franco-German war with the extinction of the native Government of Oudh. It does not seem likely to receive any great impetus in the future, but the consumption of shawls is so large among the upper classes of natives that it must be long before it dies out altogether.

Ludhiāna excels in *lungis* and *patkas*; many of the former are finished with gold lace ends and are worn by native troops. Others are sent to Khorassan and other foreign States. Technically these goods are excellent in colour and texture. A plain *patka* costs from 12 annas to 5 rupees, and for *lungis* the prices range still higher. The "rich colour and close and soft texture" of the Ludhiāna *lungis* were noticed by the Jury at the Punjab Exhibition.

Another class of cotton goods is a sort of check or khés, but in a different style of stripe or check from the ordinary product and known as *gamrún*. These are woven in pieces twenty yards long and nearly three-quarters of a yard wide, and are very well suited for summer wear. The weaving is smooth and even, and English and American cotton yarns are worked up. The annual average sale of the cotton goods enumerated amounts to about Rs. 2,00,000 and it is said by some to be increasing. The *gamrúns* scarcely seem to be as well known among European residents in the Punjab as they deserve to be. The Basel Mission at Mangalore and other works in distant parts of the country are indented upon for goods which could be equally well supplied from Ludhiāna.

Silk.

Silk-weaving is not here of much commercial importance, but *lungis* and other articles are made at least as well as at Amritsar.

Metal work.

Though there is no great speciality for metalware at Ludhiāna, the specimens sent to the Punjab Exhibition showed a quite average excellence. A local smith turns out a very fairly finished match-lock for Rs. 20.

Ivory carving.

Some small objects carved in ivory were sent to the Lahore Exhibition, but there does not seem to be any regular production.

Printing.

Since the time when a Mission Press was set up in the Danish settlement of Serampore and became important in both its commercial and educational results, the printing press has been a favourite instrument in the hands of Christian missionaries. The Ludhiāna mission printing and book-binding establishment turns out work of unusual excellence and finish. The vernacular type and Roman-Urdu books printed here, as well as the book-binding, received high commendation at the Punjab Exhibition of 1881-82. The Ludhiāna mission press does not advertise largely, like the Methodist Episcopal press of Lucknow, and it has not produced so popular a book as the cheap Roman-Urdu Dictionary of that establishment which is sold extensively in the Punjab; confining itself apparently to work of a more strictly religious character. But it takes a high place for good workmanship and neatness.

Course and nature
of trade.

There are no statistics available for the general trade of the district, but Table No. XXV gives particulars of the river traffic that passes through the district. The exports and imports of food-grains have already been noticed. It is not easy to

describe the trade of the district apart from that of the country about; but the course that it takes is roughly as follows. The surplus produce of the western villages, consisting of gram (alone or mixed with barley or wheat), and the autumn millets and pulses, is brought up to the line of railway for export from the district, or finds its way into the eastern villages for consumption there. Very little of the *gur* produced in the eastern parts is consumed in them; and most of it is bought up on the spot by trading Jats from the Jangal or Málwah country, and taken away in carts or on camels, none of it going by rail. There is no demand for *gur* from the direction either of Lahore or of Calcutta, as those parts have their own supply. The sugar (*búra* and *khand*) of Máchiwára and its neighbourhood is bought up on the spot in the same way as the *gur*, or is brought to the railway at Ludhiána, and finds its way northward, as it is not made beyond the Biás, and is in great demand with the sweetmeat-makers of Amritsar, Lahore, Mooltan, &c. There is a very considerable import of sugar, both *gur* and *khand*, from the Jullundur Doáb also, especially into the Jagraon tahsil from the neighbourhood of Nakodar. Most of the cotton of the eastern parts is exported, but does not generally take the railway on account of bad packing and consequent high rates of carriage. It is either taken back by the trading Jats in their carts, or carried by merchants in hired ones to Ferozepore, whence it goes down the Sutlej in boats. There is also an export of wheat from the eastern villages, the cultivators living on the inferior grains, some of which (maize, *massar*, &c.) are produced in the tahsil; but there is also a considerable import of gram, pulses, &c., from the west to supply the place of the wheat. The principal imports into the district are English piece-goods and iron from the south, and salt from the north. These come first to Ludhiána and thence find their way over the country to the south and west of the railway. There is also an import trade in brass dishes. The *pashm* trade will be referred to in the notice of the town of Ludhiána (page 218).

The trade from the west is entirely in the hands of the Jats, who bring the grain in their own carts, and dispose of it themselves either at Ludhiána to the regular grain merchants, or in the villages. A Jat would not part with his grain on the spot, even if it were the custom for the merchants to go about the country, for he expects to get a better price at Ludhiána, and his cattle would be idle if he did not employ them in carrying. The return trade of sugar, cotton, &c., is carried by the carts that bring the grain, and these seldom go back empty; and in such transactions the regular merchant has no share at all. It has already been explained that the Jats of the unirrigated tracts to the south-west have a great deal of spare time, which they devote to trade; but that those of the east are tied down to their villages. Nearly all the *gur* and *shukar* sold in the district is bought up by the trading Jats from the cultivators. The trade in the finer sugar products (*khand* and *búra*) made in Máchiwára and its neighbourhood is entirely in the hands of the mercantile classes. A cultivator from Samrála tahsil may make an expedition for three or four days with

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his cart in search of grain when prices rise; but he cannot get far, as his crops would suffer. The cotton is either sold to some Jat who visits the village, or is bought up by the petty local traders who keep it till the regular dealers come round, as they generally do to the larger towns and villages once a year. The grain on coming to Ludhiána is purchased from the Jats by the regular grain merchants, mostly men who have come as representatives of firms in Delhi, Muzaffarnagar, Mirat, Saháranpur, &c. There is also a considerable proportion of residents engaged in the trade.

Extent of trade.

It is impossible to give any accurate estimate of the extent of trade of this district. The Ludhiána railway station is the centre of trade for a very large tract of country, embracing most of the Ferozepore district, and a great part of the territory of the Protected States; and any attempt to determine how much of the grain trade coming along the Ferozepore and Kotla roads belonged to this district would be mere guess work. The cotton from the east also for the most part comes from Umballa district, the centres of the trade being Koráli and Morinda; but Samrála tahsil contributes something. The number of carts coming in this direction is never very large, the busy time being February and March. On the other hand, the press of traffic on the Ferozepore road is sometimes tremendous. It is pretty constant, the slack months being July-September, when the bullocks are generally sent out to graze; and the busiest, May-July, when those who engage in trade in addition to agriculture are all on the road, and the granaries are all open. In May and June the road from Dákha to Ludhiána is one long line of carts. Information is available as to the amount of grain that enters the municipal limits of the town of Ludhiána (which embrace the railway station), and also as to the amount that takes the rail at this place; but it is not possible to collect any as to the trade between the Jats of the west and the cultivators of the eastern villages. The carts of the former straggle into the villages in great numbers, the owners sell their grain where they can, and then collect loads of *gur*, cotton, *san*, *kikar* and other wood for rafters, anything that will sell down in their own country. The carts never return empty. In disposing of their grain they may first try Ludhiána; and, if not successful there in getting a good price, go on to the villages, and even find there way into the hills sometimes.

SECTION D.—PRICES, WEIGHTS AND MEASURES, AND COMMUNICATIONS.

Prices, wages,
rent-rates, interest.

The village prices of the chief agricultural staples used for the conversion of produce estimates into money at the Settlement of 1880 are shown below. They are based upon the average prices of the 20 years preceding the assessment. Table No. XXVI gives the retail bázár prices of commodities for the last twenty years. The wages of labour are shown in Table No. XXVII, and rent-rates in Table No. XXI; but both sets of figures are probably of doubtful value. Further information regarding rents will be found in Section E, Chapter III.

		SEERS PER RUPEE.		
		Assumed at Regular Settlement.	Average value for the ten years ending 1849.	Average value for the twenty years ending 1879.
Wheat	...	40 to 45	41	30
Barley	...	52 to 65	67	40
Gram	...	45 to 51	53	35 and 38
Wheat and Gram	...	45 to 62	.....	33 and 35
Mustard seed	...	25 to 30	31	20 and 22
Cotton (uncleaned)	...	.....	17	10
Maize	...	50 to 62	50	32 and 36
Jowar	...	56 to 68	51	36 and 40
Bajra	...		85	
Moth	...	46 to 60	46	35
Til	...		30	15
Gur and Rāb	...	...	19	15 and 18

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Prices, Weights and Measures, and Communications.

Prices, wages, rent-rates, interest.

The figures of Table No. XXXII give the average values of land in rupees per acre shown in the margin for sale and mortgage; but the quality of land varies so enormously, and the value returned is so often fictitious, that but little reliance can

Period.	Sale.	Mortgage.
1868-69 to 1873-74 ...	34 0 0	25 7 0
1874-75 to 1877-78 ...	51 12 0	27 9 0
1878-79 to 1881-82 ...	51 1 0	34 2 0

be placed upon the figures.

A simple money wage is paid only in Ludhiāna and the other towns. In Ludhiāna masons and blacksmiths earn, if paid by the day, Rs. 10 to 12 a month; and carpenters a little more, Rs. 12 to 15. The rates are slightly lower in Jagraon, Raikot, &c. A common coolie is paid $2\frac{1}{2}$ to 3 annas a day (Rs. 5 a month) everywhere. There is usually a good deal of work for coolies, in carrying grain from the sarāis and grain markets to the station. This is ordinarily done in hand-carts worked by a few coolies together (*reri*). In the busy times of the trade four or five annas a day may be earned in this way, the payment being by weight. A number of men of the same class earn their living by grubbing grass in the neighbourhood and selling it in the city. These coolies are of all classes, agriculturists (Jats and Gújars) who have been driven to the work by the scarcity of the land, village menials, Kashmírís of the city, &c. As there are only single looms and no factories, wages for weaving are almost unknown. An apprentice gets his food and Rs. 1 to 2 a month from his master. A weaver will earn not more than two annas to three annas a day, purchasing his own material, and selling the piece when ready.

Wages of artisans.

Coolies.

Weavers.

In the villages.

In the villages carpenters and masons, if employed by the day, get their food and four or five annas. Labourers at reaping time receive a bundle of crops as their wages; but it is seldom that such men are employed. An account has already been given of the manner in which the village servants are paid by the harvest. A coolie doing any odd job, such as plastering a house, gets his food and one to one and-a-half annas for the day's work. Weavers are given the raw materials, and are paid by the piece.

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Prices, Weights
and Measures, and
Communications.
Measures of length,
weight and capacity.

The unit of cloth measure is the *giraḥ*, the width of the first three fingers, sixteen *giraḥs* going to the *gaz* or yard. In the *gaz* used for pashmīnah there are said to be only $14\frac{1}{2}$ *giraḥs*. The *gaz* is two cubits (*hāth*), i.e., twice the length from the elbow to the points of the fingers.

The scale for weight is as follows :—

37 paisa mansūri = 1 seer kachcha.
40 seers kachcha = 1 maund kachcha.

The *mansūri paisa* is the old copper coinage of the country. The *kachcha* scale is used everywhere ; and the whole of the grain trade is done in it, even in the shops of Ludhiāna no other being used. The *kachcha* maund is at Ludhiāna 17 of our standard seers. It varies slightly through the district, this being a remnant of Sikh times, when every ruler had his own weight. A Jagraon maund is about four seers (*kachcha*) less than that of Ludhiāna ; and one of Pakhowāl something smaller still. Weighing is generally done with a ten-seer (*kachcha*) weight, called *dasérah*, which has a Government stamp on it. Almost every agriculturist has a weighing balance (*takri*) of his own. A *map* or earthenware vessel is used in the field for finding out roughly the amount of grain, but in selling the balance and weights are always used. Milk is sold and bought by the seer ; but it is generally measured in a *gadwa* or brass vessel of known capacity. Oil is also sold by weight, and it may be said that measures of capacity do not exist.

Measures of area.

The bīgah of Akbar.

The measure of area has been the subject of much inquiry, and of a good deal of correspondence. Mr. Walker thus discusses the subject : “The Emperor Akbar fixed one standard *bīgah* for the whole empire, viz., a square of which each side was a chain. The chain was 20 *ghattas*, each *ghatta* being 3 *Ilāhi gaz*. Thus 3 *Ilāhi gaz* = 1 *ghatta*, 20 *ghattas* = 1 chain. The *ghatta* I do not find mentioned in the Aīn Akbari, and I could not before account for it. The *Ilāhi gaz* was Akbar's standard of linear measurement, and is somewhat less than ours, so that the *ghatta* is $2\frac{1}{4}$ of our yard. The Sikhs introduced their own land measures, of which mention will be made hereafter. The imperial *bīgah* was restored as the official standard in our settlement of the villages acquired in 1835, and in the whole district in 1850 ; but the people have not adopted it. They know it very well, but they say that it bears a certain relation to the local measure. There is no connection between *gaz* or *ghatta* on which it is built, and the pace on which the people always fall back. The ancient measures of the country are the *ghumáo* and the *kachcha bīgah*. The latter is the standard of Hindustan or the Cis-Sutlej country ; and the former appears to be in use all over the Punjab proper, and it has also partly spread in the Málwah. In the uplands of this district the *ghumáo* is used in the greater part of Jagraon and in the Jangal villages, and the *bīgah* in the rest. In the Bét the *ghumáo* prevails, except in a small piece of country about Matewárah. The Bét tract was all in the Jullundur Doáb at one time, and brought the Punjab measure with it when the river changed its course. the exception

Measures of the
country.

mentioned above being caused by Sudha Singh introducing the use of the *bíghah* in the new villages which he founded, so as to have one standard for the whole of his territory. It was not in the power of the rulers to make the people adopt a new measure ; but they could fix the standard of that measure.

“The scale of the *ghumáo* is as follows :—

3 Karams double paces each way=1 Mandla.
7 Mandlas=1 Kanál.
8 Kanáls=1 Ghumáo.

“But generally the *ghumáo* is said to be four *kachcha bíghas*. A *kachcha bíghah* is 20 *karams* each way. The *karam*, however, is a very varying quantity, and it was here that the difference came in. The rulers had constant necessity for using a measure either for the land on which cash rates were charged (*zabti*), or for *kankút* appraisement of the crop ; and there were in every petty state some persons whose pacing was recognized as the Government standard. The *karam* would be fixed by the ruler at so many *chappas* or hand breadths 16 to 18 ; and the pacing was done to suit this. In the more highly cultivated eastern villages the *karam* was smaller, and that of the Kheri iláqa, adjoining Umballa, was recognized as 16 *chappas* ; while in Jagraon the *karam* was 18 *chappas*. This difference of measures has remained in force, and the *kachcha bíghah* of Jagraon is about two-fifths, while that of Kheri is two-sevenths, or less, of the standard official *bíghah*.

The scale of the *kachcha bíghah* is—

20 *karams* × 1 *karam* = 1 *kachcha biswah*.
20 „ × 20 „ = 1 *kachcha bíghah*.

“I may say here that we have finally adopted for future use a *kachcha bíghah*, one-third the old *pucka bíghah*, measured by a chain of 29 *karams*, the *karam* being 37 inches, and the chain 95 feet. This is a good average for the district, and fits into the old standard.”

The Sutlej is bridged for the Sindh, Punjab and Delhi Railway at Phillour, just under Ludhiana town ; and there are ferries with country boats at 13 places along its course through the district. The passage appears to be dangerous when the river is in flood, and boats are occasionally upset.

In former times there was a considerable amount of traffic carried in country boats down the river from Rúpar, Máchiwára, Ludhiána to Ferozepore and even to Sakkar ; but this ceased with the opening of the railway in 1870, and nothing is now carried down except timber or stones from the hills for the bridge works at Phillour. The Abohar Branch of the Sirhind Canal has been constructed for navigation between Rúpar and Ferozepore, and boats will soon be started on it. It is not possible to say what use will be made of this for traffic.

The Sindh, Punjab and Delhi Railway enters the district from Phillour by a bridge over the Sutlej, and runs through it to a distance of about 35 miles in a south-west direction. The principal stations are Ludhiána, Sáhnewál and Khanna ; and there are two or three smaller ones either in this district or in adjoining territory. The first-named of these is a very large and commodious one ; and new goods-sheds are being constantly erected. There are generally

Chapter IV, D.

Prices, Weights and Measures, and Communications.

Measures of the country.

Communications.
Navigable rivers.

Railway.

Chapter IV, D : several hundred waggons waiting to be loaded; and in the busiest seasons trains are constantly leaving. The Sáhnewál and Khanna stations pick up a fair amount of traffic at times; and the former is likely to increase in importance. A bázár is springing up in the village. A branch line along the canal to Rúpar was made by the Canal Department, and has just been given over to the Railway Company for working. There is also in prospect a line from Ludhiána to Ferozepore.

Prices, Weights and Measures, and Communications.

Railway.

Roads - metalled.

The district is much better off than most in the way of metalled (*kankar*) roads. There are 125 miles of them, the whole area of the district being only 13 square miles. The principal metalled roads are the Umballa and Lahore road (*viâ* Phillour) and the Ferozepore road. These are under the Public Works Department and kept up by Government, while the District Committee maintains the others: (1) from Machiwára *viâ* Samrála to Ludhiána (26 miles); (2) from Ludhiána to Máler Kotla (so much as is in this district, 14 miles); (3) from Dákha on the Ferozepore road to Ráikot (14 miles). It is also intended to connect Samrála and Khanna, which will give a metalled road between that station and Máchiwára. Part of the plan has already been carried out. The greatest amount of traffic is along the Ludhiána-Ferozepore road, which carries more than all the others together. Next in importance is the road to Máler Kotla, and the Ráikot road is not much behind this. The Umballa road is now scarcely used for wheeled traffic; and along the Samrála road there is a fair amount.

Unmetalled.

The principal unmetalled roads are: (1) the old road along the high bank, connecting Ludhiána with Ferozepore and with Rúpar. This is now used by travellers only, as the sand is very deep and wheeled traffic is not possible. There is also a road from Máchiwára through Sáhnewál and Pakhowál to Ráikot, and thence on to the Jangal; but this is not much used. Another road connects Samrála with Morinda. This joins the Kalka-Umballa road; but it is not much used, as carts go more easily the longer way by Umballa, the whole distance being metalled. A *kachcha* road runs through the Bét from Ludhiána to the town of Rahon in Jullundur, and another is the old road direct from Ludhiána to Ráikot. The only road remaining to be mentioned is one from Ráikot through Bassian to Jagraon, and from thence to Sidhwán on the Dháia. These roads are all maintained by the District Committee.

Means of carriage.

Mr. Walker writes: "The district returns show 11,659 carts belonging to people of the district; but I think that this includes the ordinary carts used for agriculture. We have entered in the village note-books the number of carts 'working for hire,' that is, those going to Ludhiána and beyond it with loads of grain, &c., (*dasáwaráda*), and the total of these entries is 5,564 distributed as follows:—

Samrála	...	...	...	310
Ludhiána	...	...	...	2,881
Jagraon	...	...	...	2,373

"This return is probably not far out. It will be observed that there are very few in Samrāla; and those of Ludhiāna all come from the south-west. The cart used in the carrying trade is a development of the ordinary field cart. I am told that twenty or thirty years ago, when the carrying trade was in its infancy, carts of the size now generally used were almost unknown. When the people began to make trading expeditions they fixed to their carts a wooden frame, wider at the top than below; and lined this with the old stalks of the sugarcane, cotton twigs, cloth, &c. But an ordinary cart of this sort, drawn by two or three bullocks, could only carry fifteen maunds (*pucka*) of grain; and it was not long before the advantage of widening and lengthening the carts was seen; and they are now, at least most of those that come from the west, of a very superior pattern, drawn generally by five bullocks, and capable of carrying forty to fifty maunds of grain. The frame work of the sides is very strong, and lined with *tūt* (called *tapar*) or matting made of *san*. Over the top is kept a thatch of *munj* reeds; or, if the owner can afford it, a thick carpet of wool, called *khar*, woven for the purpose. The latter is a perfect, and the former a partial protection from the rain." A first class cart will cost with all its appliances Rs. 100, and five bullocks, Rs. 250 to 300. Of course there are still a great many carts working, which are not of the first class. Along the metalled roads the carts go easily, and they can cover 20 miles, or two stages in 24 hours; but they have generally considerable distances along ordinary district roads before these are reached, and it requires at least the five bullocks to drag them even slowly through these. On the Ferozepore road one or two of the bullocks are generally to be seen tied up behind as a reserve. The heaviest loads come from the Ferozepore district (Moga and Zira), as the country to the south of Rāikot is so very sandy that not more than about 30 maunds can be brought up to this place. A metalled road from Rāikot to Sahna would be a great benefit. The Jat cartmen either devote the whole of their time to carrying, or only what they can spare from agriculture, which are the busy months of the grain trade. In the former case, the cartman is either a member of a family who have a joint holding, or he mortgages his land to another cultivator, getting a lump sum down for the use of it which he is always able to repay. The grain carried almost invariably belongs to the man who owns and drives the cart, for the Jats will not work for hire or carry for dealers. The cart is filled partly with the grain grown in the holding to which the cart belongs, and the load is made up by purchase in the village, or in others about.

Camels come direct to Ludhiāna from the Jangal villages by the unmetalled roads, carrying grain; and return with *gur*, salt, &c. They are useful where the roads are particularly sandy, and only a small load could be brought on a cart. A camel load is about six to eight maunds. Donkeys are used for bringing grain, *gur*, &c., from short distances into Ludhiāna, eight or ten miles. A donkey carries $1\frac{1}{2}$ to 2 maunds. In 1879-80 the Deputy

Chapter IV, D.

Prices, Weights
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Means of carriage.

Chapter IV, D. Commissioner supplied to the Transport Department 3,500 camels, 838 carts, 100 mules, 123 ponies, and 2,302 camp-followers drawn in part from the Native States across the border.

Prices, Weights and Measures, and Communications.

Encamping grounds and Sarais.

The Ferozepore and Umballa roads are a good deal used by troops marching in the cold weather, and there are encamping-grounds at Jagraon, Dákha, Ludhiána, Duráha-ki-Sarái (in a slip of Patiála territory) and Khanna, with the usual sarái and supply-house at each. There are several large private saráis in Ludhiána city, and one built by a benevolent native in Jagraon. There is a fine old imperial sarái within a few miles of Khanna and on the Ludhiána road. It is called Lashkari Khán's and was built in the time of Aurangzeb; but it is quite out of place now and never used. There is no traffic to speak of along the Umballa road on account of the railway; but the Jagraon and Dákha encamping grounds are always full of carts, *ekkás*, &c. There are also encamping grounds with supply-house at Kohára and Samrála, on the Samrála road, which is now very rarely used by troops, but was formerly the high way to Simla and the hill stations from the Ludhiána cantonment.

Bungalows and rest-houses.

There is a regular dák bungalow at Ludhiána (with a khán-sámah), and this is very much used by Europeans, who are passing through from Ferozepore or have business here. There are district (or police) bungalows at Máchiwára, at Kohára and Samrála on the Kalka road; at Khanna and Sáhnewál on the Umballa road; at Dahlon on the Máler Kotla; and at Dákha and Jagraon on the Ferozepore roads; but these are very poor (except that at Kohára), being in most cases the *burj* or corner of the tahsíl building or of a sarái. The old Residency House at Bassian, built in 1838, is still kept up with its gardens and grounds which cover an area of 70 to 80 acres. Although a good part of the building has been pulled down, what is still left is too much to be kept in good repair. It is a pleasant place to spend a few days at, as the locality is one of the most healthy in the district. There are Public Works Department bungalows along the Ferozepore and Umballa roads at Khanna, Pindori (near Dákha), Jagraon, which have fair accommodation, and are available for district officers. There are canal bungalows at distances of ten miles along the branches of the canals; but these are generally occupied by the officers of the Department or by subordinates. The statement on the next page shows the recognized routes and stages with the accommodation, &c., for travellers to be found at each.

The first halt on the road to Lahore is at Phillour in the Jullundur district.

Postal arrangements, &c.: telegraph.

The mail to Ferozepore goes by horse dák, and there is also a Government bullock train; and a horse dák for passengers, not very efficiently maintained by a contractor. There is a district dák carried by runners between Khanna and Máchiwára, Ludhiána and Dahlon, Jagraon and Ráekot. Towards Lahore and Umballa the post of course goes by rail. There is a Government telegraph office at Ludhiána, and railway offices along the line at each station.

Route.	Halting place.	Number of miles.	REMARKS.
LAHORE TO UMBALLA, GRAND TRUNK ROAD.	Duráha-kí-Sarái, Patiála territory.	13 (From Ludhiána.)	Encamping-ground with supply-houses, road bungalow; also old Imperial sarái, still in use.
	Khanna	26	As above, only the sarái is of our time, and has a "burj" or room for Europeans
LUDHIANA TO FEROZEPUR.	Dákha	12	As at Khanna, but road bungalow one mile further on.
	Jagraon	23	As at Khanna, also road bungalow one mile further on. Tahsil faces encamping ground.
LUDHIANA TO KALKA.	Kohárá	12	Encamping-ground (seldom used) and supply-house with small sarái. Also a combined Police and District bungalow.
	Samrála	20	As above, also head-quarters of tahsil.

Chapter IV, D.

Prices, Weights
and Measures, and
Communications.Bungalows and
rest-houses.

CHAPTER V.

ADMINISTRATION AND FINANCE.

SECTION A.—GENERAL AND MILITARY.

Chapter V, A.

General and Military.

Executive and judicial.

The Ludhiána district is in the Umballa division under the control of the Commissioner of Umballa, who is assisted by an Additional Commissioner stationed at Jullundur. The head-quarters staff of the district consists of a Deputy Commissioner, a Judicial Assistant, one European and two native Extra Assistant Commissioners, two Munsiffs and a Tahsildár.

The three tahsils of Ludhiána, Jagraon and Samrála are each in charge of a Tahsildár assisted by a Náib-Tahsildár.

Tahsil.	Qanungos and Náibs.	Girdá- wárs.	Patwáris.
Ludhiána Sadar. ...	2	...	...
" Tahsil ...	2	5	138
Jagraon ...	2	2	79
Samrála ...	2	3	83

The village revenue staff is shown in the margin.

There are 4 Munsifs in the district, two at Ludhiána and one at each of the outlying tahsils of Jagraon and Samrála.

The Ludhiána tahsil would appear to be inconveniently large. But the whole of the Malaudh parganáh is held in jágírs by the family of the Malaudh Sardárs, the land revenue of their estates being 85,077. The revenue and cesses are ordinarily paid by the lambardárs to the jágírdárs themselves; although the collections of the Bér branch now go into the tahsil direct, as the estate is under the Court of Wards. This arrangement for direct collection is a convenience to the people and lessens the land revenue collection work of the tahsil materially. Besides this, when the Pakhowál tahsil was broken up in 1866, the heads of the three branches of the Malaudh family were invested with criminal, civil, and revenue powers, and also created sub-registrars each within the area of the jágír held by the branch which he represented. The Bhai of Bágrian was also invested with similar powers in the isolated village from which he takes his name. The Bér Sardár is at present a minor.

The statistics of civil and revenue litigation for the past five years are given in Table No. XXXIX. Mr. Walker writes: "Compared with the adjoining districts of Hoshiárpur and Jullundur this one cannot be called very litigious. The above statement gives an average of one civil case per annum to every 68 people; but considering the extent to which joint interest in property prevail in this country, and the number of parties that may be concerned in a single case, a comparison between this proportion and that given by the returns, at all events of European countries, would be misleading. The number of legal practitioners settled in the district is steadily increasing, and these are retained by the parties in most cases of any importance. I have already noticed the litigious spirit of the Awáns and Hindu Jats. The Jat villagers of the Jagraon tahsil in particular are always ready to rush into our courts;

and, once a case has been started, it is fought out to the bitter end. It is generally a point of honour with them to take their cases up to the highest court of appeal that they can; and very large sums of money are spent in disputes where the value of the property is really trifling."

The executive staff of the district is assisted by two Honorary Magistrates in the town of Ludhiána and three Honorary Jágirdar-Magistrates in the jágirs of Rámgarh, Malaudh and Bágrian.

The police force of the strength marginally noted is controlled

Class of Police.	Total Strength.	DISTRIBUTION.	
		Standing Guards	Protection and detection.
District Imperial ..	444	47	397
Municipal ..	101	...	101
Total ...	545	47	498

by one District Superintendent and one Inspector and eleven Deputy Inspectors. The district is in the circle of the Deputy Inspector General of Police of the Umballa circle, who resides at Umballa.

There are ten *thánas* or police stations—seven of the first-class at Ludhiána, Jagraon, Ráikot, Dahlon, Sáhnewál, Khanna, Máchiwára; and three of the second class at Sahna, Dákha, Samrála. Each station has a cattle-pound attached to it. There are police posts at intervals along the Ferozepore, Samrála and Umballa roads; and the first of these is patrolled, as it was a favourite beat of the Hárnis and other criminal tribes, who used to steal from passing carts, ekkas, &c. The police duties of the Ludhiána city are performed by the regular force; but in the other towns and in all villages, there are *chaukidárs*, one or more, according to the number of the population; while, in some cases, two or three small villages are doubled up, and have one man appointed for them. The total number of this branch is 796. The *chaukidárs* are paid in the villages Rs. 36 per annum, which is collected by a rate on the houses, and disbursed by the tahsildárs. In the towns (except Bahlolpur) they get Rs. 4 a month, the *jemadárs* receiving Rs. 6: and are paid from octroi.

There is a district jail at Ludhiána, with accommodation for 325 prisoners, in which short-term convicts are confined. The average number of prisoners during the last year was 266, exclusive of persons detained in the lock-up and for debt.

Table No. XLI gives statistics of criminal trials, Table No. XLI of police enquiries, and Table No. XLII of convicts in jail for the last five years.

The Hárnis, Sáisís and Bauriahs are proclaimed under the

Tribe.	Men.	Women	Children
Hárnis ...	760	630	740
Sáisís ...	348	296	261
Bauriahs ...	108	97	103

Criminal Tribes Act, and the number of each on the register of 1883 is shown in the margin. Mr. Warburton, District Superintendent of Police, has kindly furnished the following note upon the criminal tribes of the dis-

Crime and criminal tribes.

Chapter V, A.

General and
Military.Crime, and criminal
tribes.

In various disguises Hárnis go about chiefly in the Manjha and the Jullundur Doáb, committing burglaries frequently attended with violence. They pretend to be Rájput emigrants from Rájputana, but I am inclined to think that in reality they are a section of the Sánísi tribe converted to Muhammadanism. They were nomads in the time of Rái Kalap, the chief of Ráikot, who employed them for the purpose of harassing his enemies by frequent and sudden nocturnal raids on their camps, which enabled the Hárnis to carry off horses and other transport cattle.

The magnitude of their criminality will be readily conceived by the fact that out of 857 adults so many as 778 have previous convictions recorded against them. In short they are addicted to every species of crime against property, and enjoy the unenviable reputation of being the most criminal and troublesome class in the Punjab. They were domiciled in their present villages by Rája Fatteh Singh, who was chief of Kapurthala at the time.

In this district the Sánísi class, with few exceptions, is addicted to burglary and robbery. Petty pilfering is the daily occupation of the Sánísi. At fairs and large gatherings for months his presence is felt by carrying off anything he can lay his hands on. In this district, unlike other parts of India, the Sánísis are not nomads but have fixed abodes in villages, and most of them keep up the genealogies of the Jat zámíndárs. A very interesting account of the customs and habits of the Sánísis is given by Colonel Sleeman in his report on "Badhuks *alias* Bagree dacoits and other gang robbers by hereditary profession" submitted in 1849 to the Government of India:—

At one time the Bauria class was a source of great annoyance to travellers and cultivators in this district. Their chief occupation was dacoity, burglary, and stealing grain and crops. Those who were unable to abandon their criminal avocations have sought other fields for their occupation by emigration, whilst those who are still in the district, beyond petty pilfering, are not troublesome.

Mr. Walker, in his Settlement Report, writes as follows:—

"I do not think that the people of the district have a predilection for any special form of crime, most of the serious offences coming under the heads of theft and burglary. The Gújars in the Bét do a good deal of cattle-lifting. The tribes registered as criminal are Hárnis, Gounemárs, Sánísis, Baurias, and punitive posts are maintained on their account in six villages with a total strength of 24 men. These are now drawn from surrounding districts, with a view to having the habitual criminals known wherever they are likely to go. The depredations of these people are seldom carried on in their own district, and they usually go great distances in the province and out of it in search of plunder, getting away from their villages in spite of all precautions, and although their absence is punished with imprisonment. The total number of these criminal classes by the police registers is 2,394, including men, women, and children, most being Hárnis. The Hárnis and Gounemárs were settled down under the Sikhs in six small villages of Juggan and

Ludhiana, where they own the land; and the others have now fixed residences in a few villages; but it is evident that all four tribes were originally gipsies, foreign to the country, and that for generations they wandered about committing petty thefts, begging, and living as they could. It appears impossible to break them off their habits. Where confined to villages, they are a pest to their neighbours, and the crops adjoining their lands require constant watching. They are very poor cultivators themselves. The Hárnis possess a slang, of which the following words are specimens:—

Nakhár	=	theft.	Poh	=	to bury.
Bhásri lagána	=	to commit burglary.	Chetra	=	rupees.
Khara	=	{ any Government	Tilkin	=	shoes.
	=	{ official.	Dhotin	=	a woman.
Kutba	=	{ a constable or	Táke	=	clothes.
	=	{ stranger.	Kharot	=	a lock.
Katera	=	a Jat.			

The gross revenue collections of the district for the last 14 years, so far as they are made by the Financial Commissioner, are shown in Table No. XXVIII, while Tables Nos. XXIX, XXXV, XXXIV and XXXIII give further details for land revenue, excise, license tax and stamps respectively. Table No. XXXIIIA shows the number and situation of registration offices. A sum of Rs. 19,366 was fixed shortly after annexation as an equivalent of the services which the petty chiefs are bound to render to the paramount power, and is still levied by the jágírdars. It is generally at the rate of pay 2 to 4 annas per rupee of jágír revenue, but sometimes at the pay of so many horse or footmen. There is only one distillery in the district at the Sadar. Poppy cultivation is allowed under an assessment of Rs. 2 per acre over and above the Government revenue, and the poppy heads can only be sold to licensed contractors according to rule.

Table No. XXXVI gives the income and expenditure from District Funds, which are controlled by a committee consisting of 30 members selected by the Deputy Commissioner from among the leading men of the three tahsils, and of the Civil Surgeon and District Superintendent of Police as *ex-officio* members, with the Deputy Commissioner as President. The income is Rs. 69,000 on the new assessment; and the expenditure is on the usual objects. Some sixty miles of metalled roads have to be maintained from this source, and the expenditure on them is one of the heaviest items; but the nature of the country is not such as to render necessary any other great undertakings in the way of public works, and the rest of the funds are available for such purposes as education, sanitation, &c. The Municipal Committees, of which there are six, will be noticed separately under the towns which they represent. The total octroi income on the average of the last seven years is Rs. 74,070, and of the last year Rs. 93,764. Table No. XLV gives figures for past years.

The income from provincial properties for the last five years is shown below in rupees:—

Chapter V. A.

General and
Military.Crime and criminal
tribes.Revenue, taxation
and registration.

Chapter V, A.**General and
Military.**Revenue, taxation
and registration.

	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.
Ferries with boat bridges ...	19,160	16,286	14,512	14,765	13,028
" without boat bridges ...	16,630	18,163	16,217	17,468	19,040
Staging bungalows &c. ...	770	809	561	679	724
Encamping grounds ...	665	878	1,137	1,143	1,393
Cattle Pounds ...	2,191	2,112	2,061	2,540	2,566
Nazul properties ...	691	2,974	2,041	2,070	1,619
Total ...	40,107	41,222	36,529	38,670	38,368

The ferries, bungalows and encamping grounds have already been noticed in Section D of Chapter IV, and the cattle pounds in this section. All the ferries on the Sutlej within the limits of the district are managed by the Ludhiána officials, so that the receipts really belong to two districts. There are no large *nazul* properties worthy of special notice. Figures for other Government estates are given in Table No. XVII, and they and their proceeds are noticed in the succeeding section of this Chapter, in which the land revenue administration of the district is treated of. The income of the *jágírdars*, exclusive of the tribute, is Rs. 1,58,237, and Rs. 1,19,206 are raised for the payment of village officials (*lambardárs*, *patwáris* and *chaukidárs*). Including land revenue the total taxation amounts to Rs. 16,69,807, levied in a district with a population of 618,835, giving Rs. 2-11 per head of the population. It is not meant that the whole of this taxation falls eventually on the people of the district; and there are other forms of indirect taxation, such as the salt duty, which do not come into the account.

Education.

Table No. XXXVII gives figures for the Government and aided, high, middle and primary schools of the district. There is a Government high school at Ludhiána, and there are no fewer than ten middle schools—at Jagraon, Raikot, Khanna, Máchiwára, Dehru, Sawaddi, Gújarwál, Raipur, Maláudh, Badhowál. There are 60 primary schools for boys and 19 schools for girls. The district lies within the Delhi circle which forms the charge of the Inspector of Schools at Delhi. In addition to the Government schools mentioned above there are the aided American Presbyterian Mission High and Boarding Schools and the Church of England Zenana Mission Training Schools. There is also the aided Hindu School and a School of Industry kept up by the Ludhiána Anjuman Mufid-i-Am, the chief object of which is to encourage and improve the local industry of the town in carpet-making and shawl-making. There are 396 indigenous schools in the district. Table No. XIII gives statistics of education collected at the Census of 1881, and the general state of education has already been described in Section B of Chapter III, in which, and in Section C of the same Chapter, information will be found regarding the indigenous and missionary schools. The following account of the High School is furnished by the head master :—

High School.

This school was started as a private vernacular seminary on the 27th of October 1864, at the instance and with the aid of certain leading members of the Hindu and Muhammadan

communities of Ludhiána, who felt it a desideratum, since there was no institution where secular education could be obtained, and many objected to send their children to the Mission school where religious instruction was (as it now is) compulsory. This private seminary in April, 1865, became a Government grant-in-aid school, and was created a purely Government high vernacular school in 1870. In 1875 English was introduced in it, which wrought a thorough change in its character, that is from a high vernacular school it was transformed into a high district school like those of Delhi, Lahore, Amritsar, &c., with a vernacular department attached.

Unlike other high schools of the Punjab it now contains a special department wherein *only English* is taught for the first two years of their pupilage to such students as join this department after passing successfully the middle school examination in the vernacular. In the third year they join the regular Vth or the entrance class of the school, and thus finish their English study in the school in three years. The present school house, which was built in 1882, is too small for the school, and additional accommodation has to be rented.

The construction, however, of another school house for the primary school, with accommodation for the boarders round it, within the new school compound is under consideration. The management of the institution is in the hands of a head master, assisted by a staff of eighteen teachers.

The number of pupils, and the result of examination for the last five years, are given in the subjoined statement:—

DEPARTMENTS.	1878-79.		1879-80.		1880-81.		1881-82.		1882-83	
	Number of students.	Number passed.	Number of students.	Number passed.	Number of students.	Number passed.	Number of students.	Number passed.	Number of students.	Number passed.
Upper department	46	...	43	19	35	12	27	14	41	9
Middle department	119	...	42	7	61	1	93	10	126	16
Primary department	77	...	267	32	224	45	227	61	221	69

Table No. XXXVIII gives separate figures for the last five years for each of the dispensaries of the district, which are under the control of the civil surgeon, and at Ludhiána in the immediate charge of an Assistant Surgeon. The outlying dispensaries at Jagraon and Máchiwára are in charge of hospital assistants. There are also three dispensing centres, if they may be so called, at Ludhiána, Raekot and Khanna in charge of compounders for dispensing gratis English and country medicines for simple ailments. The Sadar dispensary, which was founded in 1853, is situated on the south-east of the town, near the district jail. It contains accommodation for 16 male and 16 female indoor patients. The staff consists of one assistant surgeon, one clerk, two compounders, two dressers and menials. It is maintained almost entirely from district and municipal funds, the private subscriptions being exceedingly small. It is managed by a dispensary committee under the general control of the municipal and district committees.

Medical.

Chapter V, B.
Land and Land
Revenue.
Medical.

Medicines are distributed gratis to in-door and out-door patients, and in-door patients without private means are dieted at the cost of the institution. The following statement shows the annual expenditure and number of in-door and out-door patients for the five years from 1878 to 1882 :—

Year.	In-door.				Out-door.				Expenditure in Rupees.
	M.	F.	Ch.	Total.	M.	F.	Ch.	Total.	
1878 ...	522	117	63	702	14,879	5,926	3,851	24,656	5,456
1879 ...	462	121	32	615	13,475	5,433	4,585	23,493	4,346
1880 ...	389	107	41	537	13,065	5,641	3,894	22,600	4,938
1881 ...	465	146	60	671	13,613	5,368	3,895	22,876	6,581
1882 ...	377	131	54	562	13,826	5,102	4,410	23,368	6,450

Head-quarters of other departments.

Ludhiána is an out-station in charge of the chaplain of Umballa, who pays an occasional visit. The old cantonment church, a square, unsightly building, with accommodation for 500 worshippers, is still standing, and was used till recently ; but it has now been condemned, the roof being pronounced unsafe, and it is intended to replace it by a smaller one. The old cantonment cemetery is crowded with tombs of more or less hideous design, and is still used.

The head-quarters of the first division of the Sirhind canal, which at present covers the whole length of the main line and both branches (Abohar and Bhatinda) in this district is at Ludhiána. The whole canal is under a Superintending Engineer at Umballa. The Grand Trunk Road and the district works along it are in charge of an Engineer at Umballa (Provincial Works). The telegraph office is under the Superintendent of Telegraphs, Umballa ; and the post offices under a Superintendent stationed at Ludhiána. The two forest plantations are under the Assistant Conservator at Phillour. The fort and its buildings, with rest-houses for troops and the military hospital, are under the charge of the Executive Engineer of Military Works at Umballa. The portion of the railway which traverses the district is managed by the railway staff at Umballa.

Military.

The fort at Ludhiána is garrisoned at present by a company of a native regiment from Jullundur, under the command of a European officer. It is in the Umballa military division. There are a few volunteers, part of the Rupar Company of the Punjab Rifles, and a Rifle Range.

SECTION B.—LAND & LAND REVENUE.

EARLY SETTLEMENTS.

Akbar's revenue system (1556—1605).

In the A'in-i-Akbari we have under the head of "Tribute and Taxes" (Gladwin's Translation, Vol. I, Part III) a complete account of the great Emperor's revenue system, and some reference to those that had preceded it. The ministers, Todar Mal and Muzaffar Khan between the sixteenth and twenty-fourth years of the

glorious reign elaborated a scheme for fixing the land-revenue of the Empire, and for giving security to the husbandman, which is nearly as complete as our own. One standard chain and bigah were first introduced; then land was classified into *poolej* or cultivated every harvest, and *perowty*, *chechar*, *banjer* (Gladwin's spelling), fallow and arable waste. The average produce of each crop was then struck from the estimated value of the yield of three classes of *poolej* or regularly cultivated land; and of this *one-third* was taken as the Government due, all extra cesses being at the same time stopped, and salaries to be paid in cash from the Imperial Treasury being fixed for the officials, who had before that lived on the people. From the twenty-fifth year of the reign a ten-years' settlement was introduced, the value of the Government share in each crop being taken at the average of the preceding ten years. Elaborate instructions were at the same time formulated for the guidance of the Collectors (*Amilguzárs*) and subordinate agency. The assessment was apparently a fluctuating one, the *rates on crops* being fixed for the period; but the people were allowed to pay in kind if they chose. The rates were uniform for *subahs* or provinces; and no special information is to be obtained about this district in particular, as it is made up of several of the 33 maháls of the Sirhind *sarkár* or division, of which the whole land-revenue is set down at 40 lakhs of rupees (16,07,90,540 *dáms*). Tables are given in the A'in of the rates collected on every crop during a period of nineteen years from a bigah of *poolej* or cultivated land in each *subah*. Wheat paid generally from Rs. 1 to Rs. 2 a bigah; gram, &c., from 8 annas to Re. 1; *ponda* sugarcane, from Rs 4-8 to Rs. 5; other cane, from Rs. 2 to Rs. 3; cotton, from Re 1-8 to Rs. 3; pulses and millets (*moth*, *mung*, *joár*, &c.) from 4 annas to Re. 1. It was not to be expected that any more particular information as to the assessments paid by villages or tracts 300 years ago would be forthcoming; and, as the country was but partially under cultivation, and the present villages did not then exist at all or their limits have much changed since then, it would scarcely be of much use even if available. The rates fixed are, however, interesting.

It is impossible to say to what extent the system of Akbar was maintained by his successors; but the administration of the revenue must have suffered in the general disorganization of the Government under the later Emperors; and in all parts it came to be a struggle between the collectors and the payers of revenue, the former trying to take as much, and the latter to give as little as they could. The custom of leasing a large tract of outlying territory to some person of importance, who paid a fixed sum annually, and made his own arrangements for collection (*mustájir* or *zamíndár*) must have been recognized even in Akbar's time, for the western maháls of the district were always held by the Rais on these terms. The Phulkian and Maler Kotla chiefs, too, were originally lessees, and held their territories subject to the payment of what was really an annual tribute. The *mustájir* was liable to pay the sum so fixed, but was otherwise independent; and it was only when he withheld payment that the Imperial authorities interfered.

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Akbar's revenue system (1556—1605).

Revenue management under the later Empire.

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The *mustájir*, if his circle of villages was small, took a share of the produce from the cultivator, or sometimes cash rents on particular crops; but generally, as he held a large tract, he sublet it in smaller circles to others who dealt direct with the cultivators. The eastern parts of the district were at first directly managed by the Governor of Sirhind, because they were within easy reach, and an assessment was fixed year by year for each village; but, as the Imperial authority weakened, and collections became more difficult, the system of leasing *tappahs* or circles of villages spread. The principal *mustájir* or assignee in this district was the Rai of Raikot. The family began with a few villages, but gradually extended their boundaries, undertaking the revenue management (called *katkana*) of outlying circles of villages as the Governor of Sirhind lost control of them; till finally they held more than half of this, and a good part of the Ferozepore district. The Malaudh Sardárs, like others of the Phulkian stock, had also a lease, and paid tribute to the Emperor, taking a share of the produce from the husbandmen. There were other *mustájirs* of less note, such as the Garewál Chaudhrís of Raipur and Gujarwál, who had a small circle of villages, and paid revenue direct into the Imperial Treasury. The ability to realize the revenue has always been the test of power in this country; and we find that, as the imperial authority grew weaker, the *mustájirs* were less regular in their payments; while the villages directly assessed would only pay when forced to. As an illustration the following incidents that took place about the year 1740 A.D. may be recounted. The Rai (Kálha) was not paying up his revenue regularly, and informed the *Subah* or Governor of Sirhind that he could not realize from the villages. This was reported at Delhi, and Ali Mahomed Rohela was sent to bring the people to order. He marched out of Ludhiána towards Jagraon, putting to death lam-bardárs here and there by way of example; but he soon found that it was the Rai himself who had created the difficulty and incited the people to withhold payments. Ali Mahomed then turned on the Rai, and, with the assistance of the Phulkians, chased him out of the country.

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An account of the manner in which the country was partitioned on the disruption of the empire and the fall of Sirhind (A.D. 1763) has already been given. The western portions of the district were already in the possession of the Rais and of the Malaudh Sardárs, who between them held the greater part of the Ludhiána and Jagraon tahsils; while Samrála and some of the western villages of Ludhiána, which had hitherto been under the direct revenue management of the Governor of Sirhind, were seized on in groups by a number of petty Sikh Chiefs from across the Sutlej. The only difference that the change made to the Rais and to the Malaudh Sardárs was that they ceased to pay tribute. The petty chiefs from the Mánjha brought with them their system, if such it may be called, of revenue; and when in 1806—9 A.D. Máharája Ranjít Singh extended his territories to this side of the river, annexing all the country held by the Rais, and absorbing several

of the petty chiefs, this may be said to have been introduced all over the district. Ranjít Singh divided his conquests between himself and the Kapurthala, Ládwa, Nábha and Jínd chiefs in the manner described in Chapter II. The greater part was either retained by himself or given to the first of these. The expression *system* of revenue has been used above, but it may be said of the Sikhs as rulers, whether in the Punjab proper or in the Málwah, that their system was to exact as much from the cultivator as was possible without making him throw up his land. No one will claim for Ranjít Singh the reputation of a mild and benevolent ruler. On the contrary the careless manner in which he leased out tracts of country along with the revenue payers inhabiting them to the man who was willing to give most, or to some worthless court favourite, showed that he had a complete disregard for the welfare of his subjects. It was only when by some happy chance a really enlightened ruler of the stamp of Sáwan Mal was entrusted with the government of a portion of his conquests that any consideration was shown for the people. The chiefs, great and small, pursued the same object as the Máharája, *i.e.*, to get what they could out of the peasantry; and the only restraining influence was the fear of losing the revenue-payers. Land was then plentiful, and cultivators scarce, so that there was the danger of a chief driving away his villagers into the territories of a neighbour who was not quite so bad. In effect the chiefs were landlords who exacted from their tenants the utmost that they could without driving them away. There was a strong feeling on the part of the peasantry that they had a right to cultivate the land, and it was only the most extreme tyranny that would separate them from it; but on the other hand the demands of the chief on the produce were limited solely by his own discretion.

Máharája Ranjít Singh leased the territory reserved for himself in circles of villages, the lessees being changed from time to time. Thus the family of the *Vakíls* held the parganah of Sáhnewál, paying Rs. 1,00,000 per annum for it; and Jemadár Khushál Singh held about 150 villages in different places. These lessees made their own arrangements with the villages year by year, generally taking care to leave a margin of about one-fourth as profit on what they paid into the Lahore treasury. For some villages a cash demand was fixed, in others a share of the produce was taken or the cash value of the Government share was determined by appraisement. The Kapurthala (Ahluwália) chief had a large tract of country on this side of the river, nearly the whole of the Jagraon tahsil: and the method of fixing the assessment in his possessions may be taken as a sample and appears to have been as follows. The tahsildár went from village to village every year, and first made an offer to the lambardárs of the assessment at a certain sum for that year (this method being known as *mushakhasa*). This was often accepted; but, if not, a valuation of the Government share of the produce for the year was made by a committee selected from the respectable lambardárs of the neighbourhood. For the Rabi harvest an appraisement (*kan*) of the value of the field from each

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fixed cash rates were generally applied. The resulting assessment for the year was seldom exacted in full, notwithstanding the free use of the various recognized methods of torture; and large balances were generally allowed to accrue. The lesser Sikh chiefs took a share of the produce in the Rabi, and cash revenue according to certain rates for the Kharif crops. They were really "zamíndárs" in the Bengal sense of the word; and will still assert that the land of the two or three villages that they held belonged to them. The rates paid by the cultivators on the *zabti* crops were as follows:—

Crop.	Rate per acre.			
	Rs.	A.	P.	Rs. A. P.
Cane	14	0	0	to 20 0 0
Maize, Cotton	7	0	0	to 10 0 0
Charri, Moth. &c.	1	4	0	to 3 4 0
Carrots and other vegetables, Poppy. &c.	5	0	0	(fixed.)

These rates were fixed for a *kachcha* bigah or ghumáo, which varied a good deal throughout the district, each chief having his own standard. The *kachcha* bigah has been taken at one-third of the Government standard, as this was about the average.

The rate at which the chief realized his share of the produce was generally one-third of the grain and one-fourth of the straw. The share of the grain was often fixed as high as half. The Rais are said to have only taken one-fourth grain; and their rule is still spoken of with regret. One would have thought that with rates fixed so high the peasant would have little left for his maintenance; but besides the regular revenue there were the usual dues in cash or in kind, paid to the chief or to the harpies who represented him in his dealings with the people. It was impossible that the cultivator should pay out of his produce all that he was supposed to; and his main resource was pilfering from the field or grain heap before division. The saying "*bataie lutaie*" applied with equal effect to both parties. There were about a dozen dues levied in cash under some absurd pretence or other; and, if we add to this that the chief quartered his men and horses on the villagers, and that the latter had to contribute their labour gratis whenever called upon to do so, we may imagine that the lot of the husbandman was not a happy one, and that he could scarcely call his life his own. It will require a training for several generations to efface the results of a system like this, and to convince the people that such a thing as honesty is possible in the relations between Government and the revenue-payers.

In 1835 we acquired in the manner described in Chapter II a small portion of territory round Ludhiána and Bassian, in all 74 villages. These were managed in much the same way as the surrounding native territory for four years: then a summary cash assessment was fixed for three years; and finally in 1842 a Settlement was made for twenty years, apparently by the assistant political officers, Captain Mills, Messrs. Vansittart and Edgeworth. There is no English report of this Settlement, which was probably more on the lines of the *zabti* system.

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 of villages that
 lapsed in 1835.

those of the North-West Provinces; and from paragraph 71 of Mr. Davidson's report (written in 1853) it appears that none was submitted. A complete vernacular record with maps was made out; but this was revised when the rest of the district came under Settlement in 1850, and the assessments of 1842 were at the same time reduced where necessary, enhancements being deferred till the expiry of the full term of the original Settlement. Seventy-one villages, which had paid Rs. 75,680 in 1842, had their assessment reduced to Rs. 74,893. Three villages were not assessed in 1842, because held revenue-free. It will be seen from this that the assessment of 1842 differs but slightly from that fixed after revision.

The rest of the district came into our hands after the Sutlej campaign of 1845-46 (see Chapter II), and a summary assessment was fixed by the first Deputy Commissioner, Captain Larkins, who held charge from 1846 to 1849, Sir G. Campbell, who succeeded him, completing such work as remained to be done. The only guide for the assessing officer was the amount collected from each village by our predecessors; and this was ascertained, so far as possible, for a period of five years from the old papers, statements of leading men, &c. A very liberal deduction was made from the results arrived at in favour of the people, the amount of this varying from three to six annas in the rupee. The jāgir villages were excluded from these operations, and the jāgirdārs were allowed to continue their collections as before, till after the annexation of the Punjab in 1849, when it was decided that a cash demand should be offered to all villages alike. The assessments of the Summary Settlement were accepted readily; and, considering the data on which they were founded, worked wonderfully. A few villages became disorganized, probably owing to the change of system, and reductions had to be made here and there; but the people welcomed a fixed demand, and this need not excite our surprise when we think of what they had borne under our predecessors. It is usual to contrast the elasticity of native systems of revenue with the rigidity of ours; but it was the complete want of fixity that made the Sikh system a curse to the country. The best way of forming an idea of the fairness of the summary assessment as a whole is to observe the extent to which it was necessary a few years after to revise it in the Regular Settlement. The following figures are taken from Mr. Barnes' review of the Regular Settlement, Appendix A, which shows the final result after he had made some alterations in Mr. Davidson's new assessments:—

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Summary assessments, 1847-1849.

NAME OF TAHSIL.	ASSESSMENT.		Decrease per cent.
	Summary or by Jāgirdārs' estimate.	Regular.	
Pakhowāl ...	2,88,141	2,55,959	11
Jagraon ...	1,74,334	1,68,383	3
Ludhiana ...	2,46,786	2,42,150	2
Samrāla ...	2,36,338	2,59,108	20
Total ..	10,45,599	9,25,600	11

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Settlement of 1850.

As noticed above, the *jágír* villages were excluded from the summary assessment, and this statement includes the *jágírdárs'* estimate of their previous collections.

The Regular Settlement operations commenced in 1850; and the assessments were announced between that and 1853. They were framed under the regulations of the time and the instructions of the North-Western Provinces Board of Revenue, embodied in the "Directions to Settlement Officers." The edition of this work then in force lays down the rule "that the Government should not demand more than two-thirds of what may be expected to be the net produce to the proprietor during the term of Settlement, leaving to the proprietor one-third as his profits and to cover the cost of collection." In paragraphs 40 and 41 of his report, Mr Davidson has given an account of how his calculations were worked out. There was a very elaborate classification of soils, each *tahsil* was considered by *parganahs* (of which there were 19), and the villages of each *parganah* were divided into three classes according to quality. In each class of villages the rent for every crop and soil was calculated; in the case of the Kharif cash rents (*zabti*), which were actually in use for the principal crops and had been taken by our predecessors, giving the necessary data. For crops on which the rent was ordinarily taken in kind a rate of yield as ascertained from experiment and inquiry was assumed, the proprietor's share calculated at the prevailing rate of rent in kind, and the value of this worked out at the average of the prices current for ten years. The rental of each village was the total of the rents of each crop and soil. For the kharif harvest the rental calculated was very little out, if at all. The rates assumed do not vary much from *parganah* to *parganah*, and there were the old Sikh *zabti* rates to go on besides existing cash rates of rent; the estimates of yield are much less reliable. As a rule the irrigated rates are much too low; and, although the cultivation may have improved, it cannot have done so to the extent that a comparison of the papers of the revised and those of the Regular Settlement would indicate. As to the proportion of the gross produce taken to represent the proprietor's share, part of paragraph 9 of the Chief Commissioner's review of the report ("the equitableness of the rate, &c.") appears to have been written under a mis-apprehension, and indeed is scarcely intelligible. The rate adopted as proprietor's share was one-third of the gross produce in the uplands, and two-fifths in the Bét; and of this rental two-thirds was taken as the share of Government, that is, as the revenue rate *jama*. Mention of the prices current used in the estimates of Regular Settlement will be found elsewhere, but it may be stated here that the prices fixed, though warranted by the information then at the disposal of the Settlement Officer, were too high for the following ten years (1850—60), which was a period of very low prices.

The inquiries made at the revision of Settlement showed that the weak point of these calculations of the rental was the produce estimate, the rates of yield not being carefully determined; but even with this the rentals were very near the truth in most cases. From them a deduction was next made in favour of the proprietor. Under the instructions quoted above this would be one-third; but in paragraph 43

Mr. Davidson says that he adhered to no abstract rule, but adjusted his demand to that "prevailing in the parganah," which would be the summary jama. The balance, after making this reduction from the rental, was the revenue rate assessment. Having got his revenue rate assessment for each village the Settlement Officer used it as a guide in assessing, but did not adhere to it at all closely, the total of his actual assessments being considerably below it and only 58 per cent. of his estimated rental.

In paragraphs 9 to 31 of his review Mr. Barnes gives an account of Mr. Davidson's assessments for each tahsíl (there were then four of them). Those of Pakhowál tahsíl Mr. Barnes considered moderate; and few complaints were made to him. Pakhowál comprised the lower part of the present Ludhiána tahsíl, with the Akálgarh and Bassian parganahs of Jagraon. The Malaudh jágir had not been before assessed. The details given in the review for this parganah shew that in khálsa villages the summary assessment of Rs. 1,67,647 was raised to Rs. 1,79,425; while in the jágir villages a nominal summary assessment, which had been estimated at Rs. 1,15,938, was reduced to Rs. 74,950.

The treatment of the Jagraon tahsíl was considered to be not so successful, and numerous complaints were made. The assessments of the Hatur parganah were reduced by 14 per cent.; and relief was also given in Jagraon parganah. The figures for the whole tahsíl shown in the review are :—

Summary assessment	...	Rs. 1,74,195
Mr. Davidson's assessments	...	" 1,79,282
As reduced by Mr. Barnes	...	" 1,68,383

Even after this Mr. Barnes expressed himself very doubtful as to whether the Settlement would stand. At the present time the Hatur and Jagraon parganahs are undoubtedly in a more prosperous condition than any other part of the district, except perhaps the *Jangal* villages; and it is hard to realise the "appearance of squalor and poverty" to which Mr. Barnes refers. The explanation seems to be that these parganahs, which lie on the Ferozepore border, have always been dependant on a comparatively light rainfall, the proportion of irrigation being at present about five per cent. There had been two or three bad years when Mr. Barnes saw the tract in 1855, and the prices of the inferior grains (mixed gram and wheat, or gram and barley mostly) were very low. Be this as it may, the forebodings of the review have not been realized.

The Settlement of the Ludhiána tahsíl was considered to be better than that of Jagraon, and there was little or no complaint. The new demand was a reduction from Rs. 2,46,787 to Rs. 2,42,704, or of one per cent.

Samrála tahsíl Mr. Barnes considered to have been before "grievously over-assessed." The nominal reduction given by Mr. Davidson from the Summary Settlement jama was from Rs. 3,43,509 to Rs. 2,62,582, or 23 per cent. If we exclude the jágirdárs' estimates the reduction was about 20 per cent. Few complaints were made about the Regular Settlement assessment.

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General character of the assessments.

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General character of the assessments.

It is evident from what Mr. Barnes writes that two or three years after the new assessments had been announced they were subjected to a searching scrutiny; and such defects as appeared were at once remedied. The Commissioner visited every part of the district and freely exercised his power of revision; and no man of his day had greater knowledge of the work of assessing than Mr. Barnes. The total of the reduction given outside of the Jagraon tahsil was inconsiderable.

The term of the Regular Settlement.

The period for which the Regular Settlement was sanctioned formed the subject of some correspondence in 1879; and the circumstances connected with this are mentioned so as to prevent future misunderstandings. The term of the Regular Settlement of 1842 was twenty years. Mr. Davidson's assessments were introduced between 1850—53; and the tenders were taken for thirty years, either from the date on which they were written, or, when in the case of the villages settled in 1842 enhancement was proposed, from 1862, *i.e.*, after the expiry of the original period of twenty years. In para. 23 of the letter (No. 686, dated 11th August, 1856, printed with the Regular Settlement Report) in which the orders of Government on the settlement were conveyed to the Financial Commissioner, the sanction is said to be "for the period of thirty years, *i.e.*, up to A.D. 1880." But the orders of Government were lost sight of, probably in the confusion resulting from the mutiny; and the tenders of engagement remained unaltered, and show the periods as not expiring till 1892 and 1893 in the case of some villages. It was held in 1879, on a reference to Government, that the period of Settlement for the whole district should be taken as expiring in 1880; and that this should be notified to the people.

Working of the Regular Settlement.

There was only one refusal to engage for the Regular Settlement assessment, the village of Bairsal in Jagraon being leased for ten or twelve years. In a few villages proprietary rights were transferred on account of refusal to engage in 1842, or for balances found to be due in 1847; but it does not appear that any difficulties followed the introduction of the Regular Settlement assessment of 1850. In only one village has the assessment been reduced since the revisions of Mr. Barnes. Notwithstanding that the assessment was severely tried by two periods of scarcity, the officers who have held charge of the district since all bear testimony to the fact that the assessment was light and fairly distributed. No coercive measures have been resorted to. The balances due to suspensions in the years of scarcity were insignificant (less than one per cent. of the demand), and were quickly realized. There has been little difficulty in collection anywhere, except in some parts of the Bét; and it may be said that any apparent slackness is due, not to inability to pay, but to a hereditary unwillingness to do so. This element will be appreciated if we compare our mild methods of getting in the revenue with those employed by our predecessors. A lambardár, who has probably had experience of the latter, is not likely to care much for the issue of a warrant. In the Muhammadan Bét (Rájpút and Gújar) villages there is generally a scarcity of cash, and the revenue

has systematically to be borrowed ; but this would still be the case if we were to reduce it by half.

In a series of Appendices (No. Va.—c) to the new Settlement Report has been collected such information as could be obtained relating to the transfers of land during the last 30 years. The general result may be stated for the whole district that two per cent. of the area has been sold in the last thirty years, and that at present eight per cent. is held in mortgage with possession, these proportions being fairly equal everywhere except that in Jagraon the area mortgaged is 12 per cent. Mortgages without possession are very uncommon. One agriculturist will not advance money to another unless he gets land into his possession sufficient to give a fair return ; while the money-lending classes give credit on running accounts, or, if the borrower's credit is not good, on land transferred to them.

The registration returns show that the number of transfers previous to 1865 was very small ; but that it has not varied very much during the three periods of five years, 1866—80. The general question of what the causes are which have led to the transfers since 1865 is a very wide one. They cannot be a sign either of want of prosperity or of undue pressure of the land-revenue, for the agricultural population has never been so well off as during these fifteen years, and the profits of cultivation have never been so great. There can be no doubt that, on the contrary, they indicate prosperity, and may be due to extravagance resulting from a sudden influx of wealth. It is remarkable that the proportion of area in mortgage should be higher in Jagraon than in the other tahsils, although we know that the condition of the Jats here is superior to that of the agricultural population of any other part. It should also be added that mortgages are very often not due to any real pressure of debt ; but merely a method of raising money temporarily required ; and sometimes, too, they are a mere form of tenure.

In the next place it is important to see into whose hands the transferred land has come. The following is an abstract of Appendices Va. and b. of the Settlement Report.

Percentage.	Co-parceners.	Other agriculturists.	Non-Agriculturists.	Total.
Sold to ...	42	23	35	100
Held in mortgage by	43	14	43	100

The inference from this is that the agriculturists can hold their own against the class whose profession is money-lending far better than in most districts of the province. The Jats of the uplands at all events seldom allow an outsider to acquire permanently any land in a village community. The right of pre-emption is generally claimed and insisted on ; and it would be also in the case of mortgages if the law allowed of this. Every well-to-do Jat who has saved a little money will endeavour to invest it in a mortgage of

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land, and some of the tribe have established very large money-lending connections. Amongst the Muhammadans of all tribes, too, there are a good number of men who hold land in mortgage. It would never be difficult for a cultivator in the uplands to raise a loan on his land from a co-sharer; and this could generally be done also in most parts of the lowlands. But there is often a prejudice against borrowing money except from a regular money-lender. There are some very large bankers of the regular money-lending class in Ludhiána, Jagraon, Raikot and Máchiwára, who carry on a large business with the villagers, and also some scattered over the district; but the mass of the Jat population can get on without any assistance, and have generally some cash in hand. The total outstanding debt on mortgage is returned as upwards of Rs. 20,00,000 or about two years of the revenue demand. Of the money owed on book debt we have no details.

Price of land.

Appendices Va, and V of the Settlement Report (statistics taken from the patwáris' annual papers) give the average price per acre as Rs. 34, or 26 times the revenue demand, and the mortgage money secured per acre (with possession) as Rs. 32, or 28 times the revenue demand. The price which land will fetch varies a good deal over the district; and appears to be highest in Jagraon and the *Jangal* where the labour of cultivators is small, the revenue light, and the rate of rent in kind high. The great rise in the price of the inferior grains has also had probably something to do with this.

THE CURRENT SETTLEMENT.

Revision of Regular
 Settlement, 1879-83.

In 1879 Mr. T. G. Walker began the revision of the revenue settlement, which he completed in 1883. His report will be found to contain the fullest possible detail; and the following pages, which are taken from it almost without alteration, touch upon the most important features and the general results of the revision. The general considerations upon which the new assessment was mainly based were the increase or decrease of cultivation, and of the means of production, the alterations in the price of agricultural produce and the general improvements in resources and condition of the tract under the expiring settlement.

Increase of
 cultivation.

The following figures from the statement in para. 6 of Mr. Davidson's report of the First Regular Settlement show the area at that time still available for cultivation, and beneath are added the proportions as shown by the papers of the new survey:—

Settlement.	Total area.	Cultivated.	Culturable.	Barren waste.
Regular, 1850 ...	875,968 100	666,503 76	133,068 15	76,397 9
Revised, 1890 ...	882,167 100	729,009 83	86,664 9½	66,494 7½

The increase in cultivation has been for the whole district nearly eight per cent.; and there is now $9\frac{1}{2}$ per cent. of arable waste returned. The increase is thus distributed over the three tahsils :—

Samrála	...	...	... 5 per cent.
Ludhiána	...	...	... 7 "
Jagraon	...	...	... 10 "

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Increase of cultivation.

and the percentage is highest in the *Pawádh* and *Jangal* assessment circles of the Ludhiána tahsíl and in Jagraon. Notwithstanding the figures, there is little room now for further extension, and that the margin left at the Regular Settlement has since been filled up. Nearly one-third of the culturable land of our returns is in the Bét, where it is more difficult than elsewhere to say of much of the waste that it is or is not capable of producing a crop that would repay the cost of cultivation. In the Dháia the culturable consists of areas left for grazing, which are of considerable extent in some of the outlying and western villages, but generally very small patches, just enough for the cattle to stand in.

The only other way in which the productive power of the land has been increased is by the addition of the means of irrigation. The following statement of irrigation and of masonry wells shows the extent of this in each tahsíl :—

Increase of irrigation.

TAHSIL.	SAMRALA.		LUDHIANA.		JAGRAON.		TOTAL.	
	Area irrigated.	No. of Wells.	Area irrigated.	No. of Wells.	Area irrigated.	No. of Wells.	Area irrigated.	No. of Wells.
Regular Settlement ...	44,653	2,547	43,979	3,233	14,009	1,080	102,641	6,860
Now ...	46,645	2,756	46,593	3,846	16,657	1,355	109,895	7,957

The increase in the area irrigated has been seven per cent., and in the number of wells 16 per cent.; but most of the new wells are small ones sunk in the low lands under Ludhiána. From this it will be seen that, even if it were allowable to tax to the full improvements due to the sinking of new wells, the enhancement on this account would be a small item; and the Settlement Officer dealt very leniently in his assessments with irrigated land, besides taking care that the constructors of new works should enjoy the full period of protection allowed to them by the orders of Government.

As an Appendix (XII) to the Settlement Report will be found a note on the subject of the rise in the prices of agricultural produce, together with a table showing the variations during the last forty years (1840—79). The inquiries extended over this period, or to about ten years before the previous assessment was fixed. The following statement shows the increase of the prices realized by agriculturists for the principal products during the last twenty years over those of the period of twenty years preceding it :—

Prices.

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Prices.

	Wheat.	Gram.	Barley.	Gur.	Uncleaned Cotton.	Maize.	Moth. (pulse.)	Joár. (millet.)	Ráb. (cane juice.)
Average of 1840—59 ...	100	100	100	100	100	100	100	100	100
Average of 1860—79 ...	158	148	165	140	164	162	153	221	131

Briefly stated, the history of the fluctuations is as follows. The Regular Settlement assessment was based on the prices of the few years preceding 1850, which were high; and its introduction was followed by a general fall. Prices continued very low till 1861, when famine sent them up; and they did not sink again to their old level. The scarcity of 1868-69, and the completion of the Sindh, Punjab and Delhi Railway through the district in 1870, which opened the local market to the demands of the whole of India and its seaports, together with the general progress of the country, finally established prices at their present level; and it is not probable that they will ever again recede. During the last twenty years they have on the whole been stationary; and, although this period includes four seasons of high prices (1862 and 1868 and the two years 1878 and 1879), this is not an abnormal number, nor is the actual average unreliable. The above statement shows that the average of the prices realized during the twenty years 1860—79 by the agriculturists for the ordinary staples of produce have been 50 per cent. or upwards in excess of those of the previous twenty years.

Assessment Circles. The division into assessment circles made at the Regular Settlement did not follow any rational principle; and the supposed necessity for adhering to the old parganah divisions made it practically useless. The Settlement Officer has now in each tahsil adopted the natural features of the country as the basis of his arrangement. The villages of the low-lying Bét tract were first separated off. The Ludhiána Bét was rather too extensive for convenience; and, as there is a great difference in the produce of the upper and of the lower portions of it, a sub-division was necessary; while of the former it was necessary to throw into a separate class those villages which have land subject to annual inundation (*mand* or *kachha*), as the area is of greater extent here than elsewhere along the river, and differs widely from that part which is removed from the river (*pucka*). In the next place the villages in the strip of sandy soil along the *Dha* or ridge over the Bét could not come into the same class as those further inland; and were placed in a circle by themselves. In Samrála and Jagraon the remainder of the tahsil was of so uniform a character that there was no necessity for sub-dividing it further. The uplands of Ludhiána, however, stretch much further south than those of the other tahsils, and there is considerable diversity in the natural features. The outlying *Jangal* villages, with a small rainfall and no irrigation, naturally fell into a group by themselves; and as to the remaining

portions there is so much difference between the south-western corner about Pakhowál and the rich tract round Malaudh, that the separation of these was necessary; and there was left the upper portion, corresponding to that of the other tahsils.

The low lands in the valley of the Sutlej are everywhere known as Bét, while the land exposed to the direct action of the river is called *kachha* or *mand*. The uplands are generally spoken of as *Dháia* or land beyond the high bank (*Dha*). The tract immediately over the Bét has been called Lower Dháia, and that beyond it Upper, although the words *lower* and *upper* are not perhaps very appropriate. In Ludhiána tahsil the terms *Jangal* and *Pawádh* have been applied to the outlying villages and to the rich country about Malaudh respectively, while the tract round Pakhowál has been termed *Tihára*, or intermediate between them. The names Lower and Upper Dháia have been carried into the Jagraon tahsil for the sake of convenience. The assessment circles then are—in Jagraon and Samrála, Bét, Lower Dháia and Upper Dháia; and in Ludhiána, three Bét circles, one of which is known as *kachha* and another as *pucka*, the Upper and Lower Dháia, and the Pawádh, Tihára, and Jangal circles.

The Samrála Bét Circle contains 68 villages with a total area of 26,773 acres, of which 16,175 acres, or 60 per cent., are cultivated, 4,511 or 17 per cent. culturable or recently thrown out of cultivation, and 6,087 or 23 per cent. unculturable. It consists in the first place of the land (called *mand*) immediately adjoining the Sutlej and liable to annual inundation. The deposit left by the river is very fertilizing, and a rich clay soil is formed; but in places this is shallow and the under stratum of sand is soon reached. Beyond the *mand* the land is higher, and the soil of more ancient formation and deeper (generally three or four feet). Water is near the surface, and there is seldom lack of moisture, so that artificial irrigation is not wanted. The soil of this the *pucka* Bét is generally a rich dark clay, very fertile, but requiring a great deal of tillage. In places there are sand drifts left by the river, but these are rare. Under the high bank runs the Budha nála in the old bed of the Sutlej. The land to the south of the Budha, between it and the high bank, is generally very good, as it rises away from the former, and the soil has a mixture of sand from the Dháia. On the other side of the stream there is a strip of land rendered permanently barren by the proximity of the water, or actually swamped.

Of the whole area 60 per cent. is in the hands of Muhammadan Jats; 23 per cent. of Muhammadan Rájpúts; and five per cent. of Gujars: and it is much the worst feature of this circle that 88 per cent. of the land is held by the most improvident classes. Of the cultivated area 3,490, or 21 per cent., is held by tenants-at-will; and 1,336, or eight per cent., by tenants with occupancy right, or in all 30 per cent. of the cultivation is by tenants. The tenants belong for the most part to the same classes of the proprietors. The returns show that since the Regular Settlement two per cent. of the whole land has been sold, and that nearly eight per cent. is now in mortgage with possession of the mortgagee.

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Assessment Circles.

Assessments by
Tahsils and
Circles: Samrála Bét,

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The percentages on cultivation are three sold, and twelve mortgaged; and it is probable that only cultivated or culturable land has been transferred. The average price of the land sold is Rs. 34 an acre; and the amount secured on mortgage, Rs. 33. The land transferred has gone almost entirely into the hands of strangers. Thus on the whole nearly ten per cent. of the total, or fifteen per cent. of the cultivated area has been transferred since the Regular Settlement; and most of it to the money-lending classes. These statistics are far from showing the whole indebtedness of the people. There are a few villages able to hold their own; but they are a small proportion of the whole. Some have gone entirely into the hands of the money-lenders, the land having been sold or being held in mortgage for such an amount that there is no chance of it ever being redeemed. There are colonies of bankers (Suds, Khattris, Banias) in Máchiwára and Bahlolpur who live entirely by lending to the Bét cultivators; and many of these classes have established themselves in the villages (Panjgarien, Sherpur, &c.) The amount of money owed on book debts is enormous. It has been totalled up in some villages, and found to amount to Rs. 10 or 15 an acre. The villages are all small, averaging about 400 acres total area, and many are on the money-lenders' books for Rs. 5,000 or upwards. There can be no doubt that the tract is in a bad way; and that a large proportion of the land is passing out of the hands of the old proprietors into those of the money-lending class. There are many causes at work to produce this result.

Owing to the high rate at which rents in kind are paid it was recognized that the assessment must, in the very depressed condition of the tract, be much under the produce estimate. The following statement shows the revenue rates finally adopted and their result:—

SOIL.	Area in acres.	Revenue rate.	Resulting Jama.	Produce estimate.	Former assessment.
Irrigated ...	293	Rs. As. P. 4 0 0	Rs 1,172	Rs 1,493	Rs. ...
Dofasli ...	10,897	2 10 0	28,604	35,305	...
Ekfasli ...	4,995	1 8 0	7,492	8,906	...
Total ...	16,185	2 4 10	37,268	45,704	32,503

The calculated increase by these rates was 4,765 or 13 per cent.; but, owing to the necessity of assessing lightly new alluvial lands, it was expected that the village assessments would fall short of the sum. The assessments, former and new, and the result of the rates, were as follows:—

	Rs.
(1). Demand for 1880-81 ...	32,234
(2). Assessment by the sanctioned rates ...	38,468
(3). Actually announced ...	37,063

The actual enhancement was Rs. 3,829 or 12 per cent. This increase is a small one; and it was on the whole distributed evenly over the villages. It is not likely to make

much difference in the condition of the tract; and, if regard be had to the productive power of the land, the new assessment is moderate, for the tract is a very fertile one. The greater part of the proprietors, and certainly all the Muhammadan Rájpúts, are hopelessly involved in debt, and the only measure that could do them any good would be the suspension of the action of the ordinary Civil Courts.

The *Lower Dháia* Circle consists of certain Dháia villages whose lands extend into the Bét also, and therefore includes a certain area of Bét as well as of Dháia. The total area is 31,482 acres (contained in 30 villages), of which 25,035, or 79 per cent., are cultivated, 2,461 culturable or lately abandoned, 2,514 unculturable waste, and 1,472 Government property (land under the canal and roads). The Bét portion of the circle is for the most part very fertile, the land sloping down to the Budha nála, where this stream is at a little distance from the high bank. The soil is generally lighter than that of the rest of the Bét, there being a mixture of sand from the Dháia with it, and produces without irrigation splendid crops of sugarcane and cotton. There is also some good irrigated cultivation. But to the east, about Poáwat and Bahlolpur, the Budha is close under the high bank, and there is a great deal of swamp, the land being all to the north of the stream. The Dháia proper is a tract with an uneven surface and a light sandy soil, which shifts about under a strong wind, and is blown into hillocks. Ordinarily it has the appearance of a desert; but the soil is very retentive of moisture, and under favourable circumstances good crops are grown. The Kharíf crop is mostly *moth*, for the growth of which the soil is adapted. With a light rainfall, when better land will bear nothing, fair Rabí crops of wheat, or wheat and gram, are grown; but they are liable to be buried under the shifting sand. A heavy rainfall, such as suits soils with more clay in them, is bad for this. Round the villages are the wells, and the land attached to them is generally superior and highly cultivated; but there is a continual struggle to keep out the drifting sand. For this purpose trees (the *ber* generally) are planted, or hedges put up as barriers. The worst villages are those adjoining the high bank. The surface in them is very hilly, and the soil therefore more liable to shift. The villages adjoining the Upper Dháia circle have generally a more level surface; and, though the soil is poor, the crop is not so subject to injury from drift. But altogether the tract is an inferior one as regards natural advantages. Of the cultivated area of the Dháia 63 per cent. is classed as sand (*bhár*), and 30 per cent. as light loam (*rauslé*), while only seven per cent. is irrigated.

Hindu Jats hold 49 per cent. of the area; Muhammadan Jats, 27 per cent.; and Muhammadan Rájpúts, seven per cent. The Muhammadans are found in the villages on the high bank just over the Bét; and the character given to those in the Bét applies to them. The Hindu Jats are not so well-to-do as men of their class generally. They are for the most part industrious; but the soil is very inferior and yields but a poor return for their labour, and they find it difficult to subsist. Of the cultivated area 938 acres ($3\frac{1}{2}$

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per cent) are held by tenants with rights of occupancy, and 6,226 (24½ per cent.), by tenants-at-will; in all 7,164 acres, or 28 per cent. About six per cent. of the whole area has been sold since the Regular Settlement, and of this two-thirds to strangers of the money-lending class; while eight and a half per cent. is mortgaged with possession, three-fifths to strangers. The prices per acre are Rs. 18 for sale, and Rs. 15 secured by mortgage; and the low averages show that the land is not valued as an investment. There is not much debt outside of these figures, for money cannot be raised without the security of the land. Complaints are made very generally; and a good many of the villages are badly off. Discontent is general, and there can be no doubt that the tract is by no means in a flourishing condition, a result that may be attributed chiefly to the poverty of the soil. The assessment of the Settlement Officer in 1852 was not very well received; and was revised in 14 out of 30 villages by the Commissioner, who gave a reduction on the whole jama of 4½ per cent.

The revenue rates finally sanctioned and their results are shown below:—

Soil.	Area in acres.	Rate.	Resulting jama.	Half asset estimated.	Former assessment.
Bét	Irrigated ...	Rs. As. P. 4 8 0	773	1,111	...
	Dofasli ...	3 0 0	6,825	9,193	...
	Ekfasi ...	1 12 0	1,659	2,374	...
Dháia.	Cháhi ...	3 0 0	3,933	4,771	...
	Rauslí ...	1 0 0	6,411	5,074	...
	Bhúr ...	0 10 0	8,698	8,389	...
Total ...	25,035	1 2 1	28,299	30,912	25,892

The above gives an increase of Rs. 2,407, or eight per cent. The assessments actually announced amounted to Rs. 28,154, and were well received. The tract is a very poor one; but the assessment was and still is very light; and there is some very good land in the villages adjoining the Bét, and again in those next to the Upper Dháia Circle.

Samrála : Upper
 Dháia Circle.

The Samrála *Upper Dháia* Circle contains 175 villages with a total area of 126,324 acres, of which 107,750, or 84 per cent., are cultivated; 8,627 culturable or recently out of cultivation; and 9,947, Government property or unculturable waste. It stretches south from the Lower Dháia in a plain of uniform surface except where two belts of sand, each of about one mile in width, run across it from north-east to south-west. The soil varies from a stiff clay to a light sand, the latter being found in the neighbourhood of these belts, and the former in depressions. The prevailing soil is a good loam, generally of dark colour, friable and most fertile. The percentages of soils according to our present classification are—irrigated, 42; clay, 3; loam, 43; sand, 12.

Of the revenue-paying area 80 per cent. belongs to Hindu Jats; $8\frac{1}{2}$, to Muhammadan Rājputs; $2\frac{1}{2}$, to Muhammadan Gujars; and $2\frac{1}{2}$, to Muhammadan Jats. The Hindu Jats are a most industrious and thrifty class; and it is fortunate that the proportion of them is so large. The Muhammadan Rājputs are notorious for their improvidence; and are the worst possible revenue-payers. At the Regular Settlement this was fully recognized, and allowance was made in the assessments of their villages; but such consideration has not had much effect on their condition. They are, as a class, very much involved in debt; their villages contribute most of the area in the returns of sale and mortgage. The returns show one per cent. of the total area sold since the Regular Settlement, but nearly three-fourths of this has gone to coparceners. The average nominal price realized is Rs. 35 an acre. The land mortgaged with possession of the mortgagee amounts to four and a half per cent. of the whole, and of this nearly one-half is in the hands of members of the village community. The whole area transferred to the money-lending class proper by sale and mortgage is thus about two per cent. The amount secured per acre on usufructuary mortgage is Rs. 27. The inference to be drawn from these figures is that only a small portion of the land has changed hands, and that very little of it has gone to the money-lending class. The ordinary Jat is most tenacious of his land, and the price paid shows how it is valued.

The actual condition of the tract agrees with the result of these statistics. The people are uncommonly well-to-do, except in some of the Rājput villages where the thriftless habits of the land-owners are bringing them to ruin. But the money-lender has scarcely any hold at all on the Jats, nor is he ever likely to have more. There is a good deal of hard cash amongst them; and, if one of the number is in difficulties, he can always find some of his fellows to make an advance on the usufruct of a part of his land. There is of course a certain amount of floating debt; but this is no more than a couple of good harvests will clear off. If a money-lender has got a hold on the borrower he will insist on having the land and receiving a share of the produce; and it is a sure sign of the temporary nature of the debt when the land remains with the proprietor. There are not many external signs of prosperity such as one is led to expect from the experience of other districts. The people are very fond of their money, and waste none of it on show. The houses are neat, but have seldom any pretensions. A well-to-do Jat has no horse and not more cattle than he absolutely requires. He dresses very plainly, and spends little on the clothes and food of his family. His great aim is to get some more land into his hands; and he will keep his savings till a chance occurs of investing them in a mortgage. The best evidence of the prosperity of the agricultural population is that they can always dispose of their surplus produce to whom they like, and when they like. In most houses will be found stocks of grain or cotton more than sufficient for the use of the household, and kept in the hopes of a rise of prices. The *gur* is bought up from them as fast as it is made. They have not even the trouble of

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taking their produce to market, for there is a keen competition between the traders, who go amongst the villages and buy on the spot. The Jats are careful to get a good price; and the margin of profit left to the trader is never excessive.

The new rates proposed by the Settlement Officer and the results of their application were:—

SOIL.	Area.	Rate.	Jama.	TOTAL.
		Rs. A. P.	Rs.	Rs.
Niái ...	16,049	4 12 0	76,236	...
Simple well ...	28,791	3 8 0	1,00,765	...
Other irrigation	28	3 0 0	84	...
Rausli ...	49,536	1 6 0	68,112	...
Bhúr ...	13,346	0 14 0	11,678	2,56,875

The assessment of the last year of the Regular Settlement, including nominal assessment of revenue-free grants, was Rs. 2,07,296; and the proposed assessment would have given an increase of Rs. 49,579 or 24 per cent. His Honor the Lieutenant-Governor, in sanctioning these rates, requested the Financial Commissioner to impress upon the Settlement Officer the necessity for treating with care and leniency those villages in which, from the small size of the holdings, an increase was likely to be felt, and His Honor further considered that 20 per cent. should be the maximum increase to be taken in the Circle. The actual results raised the assessment from Rs. 2,07,643 to Rs. 2,46,293, an increase of Rs. 38,650, or 19 per cent. This increase was somewhat under that directed; but it was found that there were several Muhammadan villages in which the Settlement Officer had to go very far below rates. With the exception of these villages the enhancement was evenly distributed over the tract, and the new assessments were well received.

Ludhiána : Bét I
Kachha Circle.

The first Circle for consideration in the Ludhiána tahsíl is the *mand* or strip of land along the bank of the river; and in this have been included only the villages of which the greater part of the area is liable to annual inundation. The Circle contains 15 villages with an area of 8,757 acres, of which only 2,677, or 30 per cent., are cultivated; 3,487 or 39 per cent. culturable; and 480 or 5 per cent. lately abandoned. The remainder, 26 per cent., is unculturable. The small proportion of cultivated area to culturable and barren is not to be wondered at in a tract like this. The unculturable is sand along or in the bed of the river, and the culturable is the ordinary new land found on its banks, covered with a growth of *pilchi* or of reeds. Most of this will eventually be cultivated, unless destroyed by the river. The land of this Circle is nearly all liable to annual inundation: and people live in adjoining villages of the *pucka* Bét, and sometimes in a corner of their own, as the land is under water during most of the hot weather. The silt left by the overflow of the river is generally very fertilizing, and the land is really renewed annually. The soil is a clay-loam on a substratum of sand. When the deposit has attained a depth of nine inches to a foot, the plough can be worked in it without bringing up the sand, and cultivation is possible. But good crops cannot be

grown unless the sand is from one to three feet distant from the surface, the further the better.

The land is held by the various tribes, thus : Muhammadan Rājputs, 57 per cent ; Muhammadan Gujars, 10 per cent ; Muhammadan Jats, 14 per cent ; Hindu Lobānas and Binjāras, 16 per cent ; others, 3 per cent. The Muhammadans are not well suited to the ups and downs of an alluvial circle, but they are fairly well-to-do. The Binjāras engage a good deal in trade, and do not depend entirely on cultivation. Of the total area less than one per cent. has been sold since the Regular Settlement, and eight per cent. is now held in mortgage. The price in the case of sale is Rs. 40 an acre, and the mortgaged money per acre Rs. 17. The whole area mortgaged has gone to money-lenders ; but it is made up almost entirely by one Rājput village, of which the whole land has been mortgaged. With the exception of this one village the Circle is in good condition. The produce is excellent and the people keep out of debt, and are generally well-to-do. But they are of course liable to lose their land any year from the action of the river. The Regular Settlement gave a large reduction on the jama of the Summary Assessment, and was 20 per cent. under rates. The present assessment is very light.

The following statement shows the rates sanctioned and their result as compared with the produce estimate :—

Soil.	Area.	Rate.	Resulting assessment.	Half asset estimate.
		Rs A P.		
Irrigated ...	24	3 12 0	90	141
Dofasli ...	1,283	2 12 0	3,558	4,798
Ekfasli ...	1,370	1 12 0	2,397	2,858
Total ...	...	...	6,045	7,797

As in Samrāla it was expected that the village assessments would fall short of the above total on account of new land favourably assessed ; and, in the case of the land included in the *kachha chak*, or area liable to annual assessment, *dofasli* rates of Rs. 2-10-0 and Rs. 1-10-0 were to be applied instead of the full rates. The assessment announced and reported amounted to Rs. 4,900, as against a total by rates of 5,039, there having been considerable changes in the area of the report as in the case of Samrāla ; and the enhancement on the demand of the last year, Rs. 4,049, was 21 per cent.

Bet I Pucka comprises the rest of the villages of the Bét portion of Bhartgarh and Sāhnewāl parganahs. It contains 57 villages with a total area of 32,048 acres, of which 21,237, or 66 per cent., are cultivated ; 8,078, or 25 per cent., culturable or lately abandoned ; and 2,733, or nine per cent., barren waste. Part of the land of one or two villages is in the *mand* and subject to inundation, but with this exception the tract lies high, beyond the direct influence of the river. Towards the high bank, too, very few villages adjoin the Budha nála, which runs for the most part through the

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Bét portion of the Lower Dháia circle. There are a good many *nálas* or streams running across the tract, which fill in the rains, but seldom overflow their banks. The soil, like that of Bét lands generally, is a stiff dark clay-loam on a substratum of sand, very fertile when properly cultivated. The water level is near the surface, and there is always abundance of moisture. In places there is tendency to *kallar*; but this is not common, and land so affected is mostly uncultivated. Sand ridges occur, but the sand does not shift. The stratum of clay is shallow here and there and the sand appears on the surface; but, as a rule, the clay reaches to five or six feet below the surface. Irrigation is everywhere easy, water being found at a depth of eight to twelve feet, and there is more of it than in Samrála Bét. The proportion of irrigated land is five per cent. of the cultivated area of the whole Circle; but it lies mostly in the villages to the west. In the eastern part, as in the Samrála Bét, irrigation is not required, and superior or *dofasli* cultivation is carried on in the unirrigated land.

Of the whole area 93 per cent. is held by Muhammadans, thus:—Rájpúts, 22; Gujars, 34; Jats, 19; Aráiens, 7; others, 11. The "others" are made up of Awáns and Saiads principally. The Hindus, who hold seven per cent., are mostly Lobáns. The Rájpúts are bad husbandmen, and do not willingly cultivate their own land. The Jats and Gujars are more industrious and well-to-do. The condition of the tract is better than that of the Samrála Bét, a result that may be attributed principally to the small area under sugarcane cultivation, for where cane is grown the cultivator is driven to the money-lender. There is no such eagerness here on the part of the money-lenders to make advances to the agriculturists; and the latter are more thrown on their own resources, and, as a rule, incur debt only when compelled to do so for a marriage, on account of a bad harvest, or for some such cause. They ordinarily live on the grain that they grow themselves. Some of the villages, such as Kariáná, Baliewál, &c., are very prosperous; and few are really much involved, though proprietors in most will be found in debt. It cannot, on the other hand, be said that there is a great deal of wealth in the Circle. The wheat and cotton are mostly sold; and good prices are realized for vegetables, which are bought by traders from the city, and for straw sometimes. The proportion of the agricultural population who are well-to-do, and can dispose of their own surplus produce when they like, is considerable; but not nearly so large as in the Dháia. Such money as may be saved is generally kept in hard cash or invested in land. There is no display of brass dishes, &c., for the Muhammadans do not use them; and only sufficient cattle are kept for the use of the household, except by the Gujars, who dispose of the milk and *ghí* produced by their buffaloes and cows.

Of the total area one and a half per cent. has been sold since the Regular Settlement, and six and a half per cent. is now in mortgage. Of the sales 33 per cent. are to agriculturists, and of the mortgages 50 per cent., so that the area transferred since the Regular Settle-

ment to the money-lending classes is less than five per cent. on total area, and six and a half per cent. on cultivation. The average price per acre is for sale Rs. 46, and for mortgage Rs. 34. There is a good deal of money owed on book accounts, as might be expected from the character of the people, for Muhammadans seldom get on without the assistance of the money-lender; but the debt of this sort is not nearly so great as in the Samrála Bét, nor does it press very hard.

The rates sanctioned for this Circle and the resulting assessments are :—

Soil.	Area.	Rate.	Resulting jama.	Half asset estimate.
		Rs. A. P.		
Irrigated ...	1,118	3 12 0	4,192	6,051
Dofasli ...	7,016	2 8 0	17,540	21,488
Ekfasli ...	13,103	1 7 0	18,836	22,704
TOTAL ...	...	...	40,568	50,243

There are some villages in this Circle, too, with new alluvial land which had to be assessed favourably; and the assessments announced gave a total of Rs. 41,519, being an enhancement of 20 per cent. on the demand of the last year (Rs. 34,207), and the jama given by rates for the year of announcement being 41,602.

Assessment Circle *Bét II* is the western part of the Ludhiána Bét, and includes nearly the whole of parganah Núrpur. It is about twelve miles in length and four in breadth, and contains 67 villages with a total area of 41,305 acres, of which 26,121, or 63 per cent., are cultivated. There has been a loss by diluvion since the Regular Settlement of 14 per cent. of the total area, and some villages have lost almost the whole of their land. A *Kachha* Circle was not separated off, because there is very little good *mand*. The soil of Bét II is for the most part much inferior to that of Bét I (*Pucka*), and the rainfall is considerably less. The Budha nála is the boundary of the Circle to the south, and joins the river just outside it, so that all the land on the north bank of this stream is included. This is in parts very inferior, being either unfit for cultivation, or yielding very poor crops and that not every year. *Kallar* is more prevalent than in the eastern Bét, and barren patches are to be found in the best wheat fields, especially about Núrpur. As in Bét I irrigation is easy, water being at about the same depth. The proportion of irrigated land is nine per cent. of the cultivation.

The land is thus distributed amongst the agricultural classes :— Muhammadan Gujars, 44 per cent.; Muhammadan Rájpúts, 10 per cent.; Muhammadan Aráiens, 10 per cent.; Muhammadan Awáns, 11 per cent.; Muhammadan Dogars, 10 per cent.; Hindus, 4 per cent.; others, 11 per cent. Gujars predominate as proprietors. The Aráiens are very common as tenants, besides cultivating a large proportion as proprietors. The Awáns and Aráiens are as a rule well-to-do; and so are the Gujars in the villages away from the river and near the city.

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Land and Land
Revenue.Ludhiána : Bét I
Pucka Circle.Ludhiána : Bét II
Circle.

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Revenue.**Ludhiána : Bét II
Circle.

The tract is for the most part in fairly good condition. The villages on the margin of the river, which belong mostly to Gujars, have lost a great deal of land; and the proprietors have become involved on this account. But there are a number of first-rate villages removed from the river with a great deal of irrigated land, belonging to all classes of proprietors. The people of these derive great benefit from the proximity of Ludhiána, where they have a ready market for their produce of all sorts, and whence they can obtain a plentiful supply of manure. The Regular Settlement gave a small reduction on the Summary assessment. The revenue has been realized without any difficulty, except in one or two of the Gujar villages along the river, which have suffered most from its action. The returns show three and a half per cent. of the total area (or five and a half of the cultivated area) sold since Settlement, and four and a half (or seven of cultivation) held in mortgage now. The prices per acre are Rs. 37 for sale and Rs. 29 for mortgage, the price per rupee of Government demand being much the same as in Bét I. Of the land sold two-thirds has gone to agriculturists, and one-third of the mortgaged land is held by them. Thus the proportion of land transferred to outsiders is four and a half of the total, or six per cent. of the cultivated area.

The rates sanctioned and the resulting assessments are as follows:—

Soil.	Area.	Rate.	Resulting assess- ment.	Half asset estimate.
Irrigated ...	2,454	Rs A. P. 3 12 0	9,202	11,036
Dofasli ...	1,458	1 10 0	2,369	2,994
Ekfasi ...	22,209	1 4 0	27,761	29,428
Total ...	...	...	39,332	43,458

When the assessment given by the rates came to be distributed over the villages of this Circle it was found that, even after making allowance for the new alluvial lands, the rates gave higher jamas than could be taken; and those finally reported amounted to 35,535 as against a rate jama of 36,738, which was still an actual increase of 23 per cent. on the last year's demand of 28,288.

The *Lower Dháia* Circle of Ludhiána is a continuation of that of Samrála, and a detailed description of it is not necessary. It extends for the whole breadth of the tahsil, and contains 78 villages with a total area of 73,604 acres, of which 79 per cent. is cultivation. The Dháia portion is much better than that of Samrála, because several fine villages have been included, and the percentage of irrigation and good soils is as follows: irrigated, $7\frac{1}{2}$; *rausli*, $62\frac{1}{2}$; while *bhár* is only 30 per cent.

The crops and husbandry of the Dháia portion are the same as in Samrála, while in the Bét lands they agree with those described for the *Pucka* Bét Circles of Ludhiána. The land is divided thus between the various agricultural tribes: Muhammadan Rájpúts, 30 per cent.; Muhammadan Gujars, 9 per cent.; Muhammadan Aráiens,

Ludhiána : Lower
Dháia Circle.

4 per cent. ; Muhammadan Jats, 3 per cent. ; Muhammadan Awáns, 6 per cent. ; other Muhammadans, 6 per cent. ; Hindu Jats, 35 per cent. ; other Hindus, 7 per cent. The Muhammadans hold the villages along the high bank, those with land in Bét and Dháia ; and the Hindus, those adjoining the Upper Dháia.

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Revenue.
 Ludhiána : Lower
 Dháia Circle.

Some of the large villages along the high bank belonging to Rájputs are in very bad condition. The lands of these (both Bét and Dháia) are not very good, and the cultivation poor ; but the assessment is extremely light, and it is entirely owing to the thriftless habits of the proprietors that they are in such a state. The Hindu Jat, Awán and Aráien villages are all well conditioned, and there is little complaint of debt in most of them. But the tract does not enjoy many natural advantages ; and is, as a whole, the worst off in the tahsil. The assessment of the Regular Settlement was a considerable increase on that of the Summary Settlement ; but it was realized without trouble, except in one or two villages where the lambardárs are themselves in difficulties. On the whole, though some of the Dháia lands are very inferior, the condition of the Circle is not really bad. Of the total area three per cent. has been sold since the Regular Settlement, but three-fourths of this has gone to agriculturists ; while seven and a half per cent. is now held in mortgage, half of it by the money-lending classes. The prices realized are Rs. 45 an acre on sale, and Rs 28 on mortgage. The land sold and mortgaged is mostly in the Dháia. In the returns are included two whole villages (one sold and one mortgaged) ; and this has run up the area. There is a good deal of book debt ; and the Rájput and Gujar villages more especially owe large sums. Land has a very good price.

The rates sanctioned and the resulting assessments are shown in the following statement. The Settlement Officer was directed in the orders sanctioning the rates to go above them and to take up to a 10 per cent. enhancement if it appeared prudent to do so :—

	Soil.	Area.	Rate.	Resulting jama.	Half assets estimate.
Bét. Dháia.	Irrigated ...	1,439	Rs A. P. 3 12 0	5,396	6,874
	Dofasli ...	2,675	2 4 0	6,018	7,075
	Ekfasli ...	6,530	1 4 0	8,162	7,894
	Nái cháhi ...	2,444	3 8 0	8,554	11,256
	Khális cháhi...	1,169	2 8 0	2,922	3,380
	Rausli ...	29,933	1 2 0	33,674	30,454
	Bhúr ...	14,509	0 12 0	10,882	9,612
	Total ...	...	1 4 1	75,608	76,546

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Land and Land
Revenue.Ludhiána : Upper
Dháia Circle.

No difficulty was experienced in taking a total assessment of 80,100 as against an assessment by rates of 79,341* ; an enhancement of 10 per cent. on the last year's jama of 71,404.

The *Upper Dháia* Circle contains 117 villages with a total area of 1,08,145 acres, of which 95,135, or 88 per cent., are cultivated. It is the central portion of the tahsil, stretching right across it. The greatest length from east to west is 22 miles, and the breadth varies from 2 to 12. The tract does not differ much in character from the Samrála Upper Dháia. The soil is generally somewhat lighter, and the surface cut up more irregularly by sand ridges ; but stretches of as good loam as any in Samrála occur, and the proportion of actually inferior soil is not quite so great. The water level lies at about the same depth (40 feet), and irrigation is quite as easy. The proportion of irrigation is less here than in Samrála (22 as against 42 per cent.) ; and there is not so much high cultivation. But the unirrigated lands at all events are equal to those of Samrála, perhaps even better adapted to dry cultivation. The proportion of irrigation, *rauslí* and *bhúr* are : irrigated, 22 per cent ; rauslí, 63 per cent ; bhúr, 17 per cent.

Agricultural tribes,
and tenures.

The proportions of land held by the various agricultural tribes are :—Hindu Jats, 86 per cent. ; other Hindus, 8 per cent. ; Muhammadan Jats, 3 per cent. ; others, 3 per cent. Of the Hindu Jats the Garewál *got* hold 26 per cent. of the whole area of the Circle, the rest being divided between the Gil, Sekhon, Dhilon and other *gots*. The Garewáls are probably not much inferior as cultivators to the others, but more given to extravagance. Most of the land of the Circle therefore belongs to the best class of agriculturists. The cultivating percentages are : by proprietors cultivating their own land, 76 ; by occupancy tenants, 4 ; by tenants-at-will, 20. The land under tenants-at-will is thus made up : by mortgagors cultivating their own land, 2½ ; by proprietors of other land, 9½ ; by tenants who have no proprietary or occupancy rights, 8.

Of the total area two per cent. has been sold to agriculturists since the Regular Settlement, most of it (five-eighths) within the village ; and only one half per cent. has gone to money-lenders. The proportion of area mortgaged is four per cent. to money-lenders ; and of this about one-third is without possession of the mortgagee. The total transfers amount to two and a half per cent. sold since Regular Settlement ; and eight per cent. now in mortgage. In such a large Circle it might be expected that the condition of all villages would not be alike. Some are weak, either on account of inferior soil, or because the people have got into debt in bad years and have not been able to extricate themselves. One or two villages were disorganized in the Summary Settlement, and had their land transferred. But the tenacity with which it has been held by the purchasers, and the constant attempts of the original

* The difference between this amount and the figures of the above Statement is due to subsequent transfers of villages.

owners to recover it, show how much it is valued. The great majority of the villages are strong communities, perfectly self-dependent. The proprietors seldom owe more money than they could pay off with a slight effort; and they are able to dispose of their surplus produce themselves in Ludhiána, and watch the market quite as keenly as the ordinary trader does. The dwellings present generally an appearance of prosperity; and there is more display of it than in Samrála. Good houses, good cattle, brass dishes, jewelry are the signs of wealth to be looked for, and they are generally to be found. Most houses have a store of grain, the produce of one harvest being kept till the next one is secure, unless very high prices tempt it out. Large sums of money are spent on marriages and funerals, extravagance of this sort being greatly on the increase. Altogether there are unmistakable signs that the tract has thriven under the former assessment, which gave a slight reduction in the villages that had been summarily assessed, and has been collected without any trouble at all.

The following statement gives the rates finally adopted for this Circle and their results:—

Soil.	Area.	Rate.	Resulting jama.	Half asset estimate
Níái cháhi ...	13,437	Rs. A. P 4 8 0	56,166	65,715
Kháis cháhi ...	8,170	3 4 0	28,952	30,442
Dákhur and Kauslí ...	60,196	1 6 0	82,770	95,153
Bhúr ...	14,332	0 14 0	12,541	12,469
Total ...	...	...	1,78,429	2,00,784

The assessments announced amounted to Rs. 1,70,639, the result of the rates after such alteration in the limits of the Circle as it was necessary to make being Rs. 1,71,212, and the increase 17 per cent. on the previous demand.*

Circle *Pawádh* contains 39 villages with a total area of 34,972 acres, of which 27,332 or 78 per cent. are cultivated, and 5,867 or 16 p.c., culturable or recently abandoned. It embraces the upper part of parganah Malaudh; and is held in jágir by the Sardárs of Malaudh, with the exception of three or four villages. There are two outlying villages attached to the Circle. The Pawádh does not materially differ from the Upper Dháia, except that the soil is generally harder, containing more clay, and better adapted to irrigated than to unirrigated cultivation. There are one or two sand drifts, and lighter soil in their neighbourhood; but a stiff loam of dark colour predominates. The water level is closer to the surface, being generally at a depth of about 30 feet. Irrigation from wells covers 29 per cent. of the cultivation. The average population per square mile of cultivation (630) is much higher than in any other Circle of the tahsil; and only a little lower than that in Upper Dháia Samrála.

Chapter V, B.

Land and Land Revenue.

Agricultural tribes, and tenures.

Ludhiána : Pawádh Circle.

* See footnote to last page. An interchange of villages between these two Circles was found necessary.

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Revenue.**Ludhiána : Pawádh
Circle.

Of the total area 94 per cent. belongs to Hindu Jats of the Bhandar and miscellaneous *gots*. They are a most industrious and thrifty race ; and no other tract can show such a large proportion of good cultivators. Even amongst Jats the people of the Pawádh are noted for their industry. Proprietors cultivate 82 ; occupancy tenants, 2 ; and tenants-at-will, 16 per cent. of the area.

The returns show that of the whole area one and a half per cent. has been sold since the Regular Settlement, while seven per cent. is now held in mortgage. About one-half of the sales have been to other members of the village community, and only a third to non-agriculturists. About one-quarter of the mortgages are without possession of the mortgagee, while the whole of these and about half the mortgages with possession are to money-lenders. The people have by their thrift and industry attained a condition of great prosperity ; and the villages are almost without exception held by strong independent communities. In fact there is no village that can be said to be badly off ; while some are notorious as containing great wealth. The proprietors dispose of their produce either to traders on the spot, or take it to Ludhiána, and there is not much debt of any sort. The villages were not assessed in the Summary Settlement, but paragraph 10 of Mr. Barnes' Review gives the following details for the whole *jágir*, that is this and the Jangal Circle :—

Jágirdárs' estimate of their collections	... 1,15,938
Regular Settlement assessment ...	... 74,950

The *jágirdárs* took in grain and in cash ; and their estimate was naturally exaggerated, though not very much ; and there is no doubt that they took the equivalent of nearly half as much again as the Regular Settlement assessment. The rates at which they made their collections were little, if anything, under proprietors' rates ; and the Regular Settlement assessment gave a reduction of nearly two-fifths on these.

The following is a statement of the sanctioned rates and the results :—

Soil.	Area.	Rate.	Resulting assessment.	Half asset estimate.
Níái cháhi ...	6,649	4-2-0	27,427	28,879
Khális cháhi ...	1,341	3-0-0	4,023	4,145
Rauslí and Dákhar...	16,228	1-4-0	20,285	21,776
Bhúr ...	3,114	0-13-0	2,530	2,577
Total ...	.....	.....	54,265	57,377

The assessments actually announced amounted to 54,360, an enhancement of 22 per cent.

Ludhiána : Tibhára
Circle.

The *Tibhára* Circle contains 57 villages with a total area of 66,112 acres, of which 59,167 or 90 per cent. are cultivated. It

is the south-west corner of the upper part of the tahsíl, and comprises the whole of parganah Pakhowál, and some villages of Ghungrána. The natural features of the Circle do not differ very much from those of Upper Dháia. The soil is somewhat lighter, and although the water-level is nearer to the surface. (about 35 feet generally), irrigation is not so common, only 15 per cent. of the cultivation being irrigated. Of the unirrigated area 78 per cent. is good soil (that is *dákhar* or *rousí*), and 22 per cent. *bhúr* or sand. There is no proper record of the rainfall; but it may be taken as two or three inches less than that of the last two Circles. The present density of the population is 493 to the square mile of cultivation.

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Land and Land Revenue.

Ludhiána, Tihára Circle.

Of the land of the Circle 84 per cent. is cultivated by proprietors, 2 per cent. by occupancy tenants, and 14 per cent. by tenants-at-will. Hindu Jats own 78 per cent. of the area; and there are one or two Rájput villages, this tribe having 9 per cent. of the whole land. The principal *gots* of Hindu Jats are Garewál (13 per cent.), Dháliwál (10 per cent.), Bhandher (4 per cent.). The Rájputs of the Circle are perhaps worse than their class, generally, more thriftless and worse cultivators. Most of the villages are in very good condition, being in the hands of large and strong communities. The Rájputs are in debt; but the Jats are well-to-do, and as a rule independent of the money-lender. A succession of good harvests, and the high prices now realized for the inferior grains grown in unirrigated land, have brought a great deal of wealth into the Circle; and in every village some of the proprietors are engaged in trade and own carts or camels which they ply for hire. Numbers too are in the service of our Government or of the Native States about. The houses are well built and comfortable, and generally contain good stores of grain and cash. It was not found necessary to give much reduction of assessment in the Regular Settlement (about 3 per cent.); and the present *jama* has been collected without any difficulty. Of the total area three-quarters per cent. is shown as sold since Regular Settlement, and of this most has gone to agriculturists. The registration returns, which are up to date, give a much larger area, amounting to one and a half per cent. of the whole. The area now held in mortgage is four and a half per cent., with possession of mortgagee and one per cent. without possession. Of the former about one-third is to outsiders and two-thirds to agriculturists. The price of land sold is Rs. 72, while the average money secured on mortgage with possession is Rs. 37. For sale the price per rupee of Government revenue is Rs. 50, and for mortgage Rs. 26. The price realized for land in this Circle is by the returns higher than in any other, and there can be no doubt that this is the sort of land that has most attractions to an investor.

The following is a statement of the revenue rates sanctioned for this Circle, with the results on the figures of the Assessment Report :—

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Revenue,
 Ludbiána Tihára
 Circle,

Soil.	Area	Rate.	Resulting assess- ment.	Half asset estimate.
Niái cháhi ...	5,947	Rs. As. P. 4 0 0	23,788	29,602
Khális cháhi ...	3,310	2 12 0	9,102	10,137
Rauslí ...	39,117	1 4 0	84,854	48,745
Bhúr ...	11,243	0 12 0	7,807	8,790
Total ...	...	...	89,553	97,274

The assessments announced amounted to 95,998, the *jama* by rates being, after the transfer of two or three villages from the Upper Dháia Circle, 96,073, and the enhancement 20 per cent.

Ludbiána. Jangal
 Circle.

The *Jangal Circle* contains 29 villages with a total area of 69,026 acres, of which 59,208 or 85 per cent. are cultivated, and 7,479 or 11 per cent., culturable. The villages are all held in *jágir* by the Malaudh family, and lie to the south of the Jagraon tahsíl in detached groups surrounded by Nábha and Patiála territory. The distance from Khiáli, the most northern village, to Bhaini Chuhar, the most southern, is nearly 40 miles. The latter is more than half way from the boundary of Jagraon tahsíl to that of the Sirsá district. The principal groups are those of Sahna and Dhapáli, which are adjacent and between them contain 21 villages. Sahna may be taken as the centre of the tract, and it is 24 miles from the nearest point of Tihára Circle. The villages are very large, averaging 2,300 acres of total area; and the sites are at great distances from each other. This, with the uneven character of the surface and the absence of irrigation, gives the country rather a wild appearance, although there is really little more waste land than in any part of the district. In places great ridges of sand occur, but they are not common; and the soil is generally a good loam, sometimes with a considerable mixture of clay. The returns give the proportion of *bhúr* or sand to good soil as 13 : 87. There is a little irrigation in the first two villages of the Circle; and there was some formerly in a village of the Sahna group, but the latter has been given up as unprofitable. Water is found at a depth of 75 to 130 feet; and is with considerable difficulty raised in the wells round the village sites which are used for drinking purposes. The Sirhind canal, already under construction as far as Sahna, passes through three villages of the Sahna group; and it is probable that every village in the Circle will within a few years be reached by some of the distributaries.

Of the cultivated area only 8 per cent is held by tenants, who mostly pay in kind. Hindu Jats held 86, and other Hindus, 9 per cent of the area. The people of the Jangal villages are a very fine race. They have little labour to do in the fields, and spend their spare time profitably in moving about and picking up what they can by trade, while a great many of them take service in the army.

No part of the district has such a reputation for prosperity as this Circle. The people of the more highly cultivated parts are never weary of telling one what immense profits the Jangal zamindars are making, and what an abundance of land there is; and there can be no doubt that a succession of good seasons, and the great demand for the inferior grains which are the principal staples, together with the trading habits of the people, have raised the general condition of the tract within the last ten or fifteen years much more, comparatively, than that of any other. There is every sign of prosperity in the Circle. The houses are large and comfortable, the cattle superior to those of any other parts, and a large proportion of the proprietors own carts or camels with which they go all over the country, disposing of their own grain or carrying for hire. It is for this purpose that such high class cattle are kept, for inferior ones would do for agriculture. Perhaps the way in which money is now spent on marriage and other celebrations is the best proof of the profits made by cultivation. It is not uncommon for a Jat of these parts to expend Rs. 500 to Rs. 1,000 on such an occasion, and cases will be found where Rs. 1,500 had been wasted in this manner by proprietors of ordinary means. Of course this is extravagance, and often leads to debt; but still it betokens the presence of wealth.

The area returned as sold since the Regular Settlement is very small (about one-third per cent). The area mortgaged is ten per cent. of the whole area, but of the six per cent is to agriculturists of the village, and two and a half to non-agriculturists; while eight and a half per cent. is mortgaged with possession of mortgagee; and one and a half per cent. without possession. The latter is all to money-lenders. It has elsewhere been remarked that land was often mortgaged where there was no real necessity, and this is the case with the greater part of the mortgages in this Circle to fellow-sharers of the village. The mortgage is sometimes merely a form of tenure, the proprietor being unwilling or unable to cultivate himself, and the mortgagee paying down a lump sum for the right of cultivation, which he retains till the money is repaid. The price of the land sold averages Rs. 38 an acre, or Rs. 79 per rupee of Government revenue, but the area on which the average is calculated is small. The average per acre of mortgage money is Rs. 30, or Rs. 60 per rupee of Government demand. These prices are, comparatively with the revenue demand, higher than in any other Circle, and absolutely higher than in most. The people have been able to tide over any failures of harvest that have occurred during the currency of the Regular Settlement, and to pay their revenue punctually in the worst years. This they do from their stores of grain; for experience has taught them foresight to an extent that is not required in more favoured tracts, and in the possession of most proprietors will be found sufficient grain for at the very least a year's food. The amount stored at any time will depend on the state of the market, for the people can always wait for favourable prices; but it is never reduced below this until the next harvest is insured, which may be before it is cut. The failure of a single harvest, though it may

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cripple the resources of the tract temporarily can have no permanent effect. The failure of two harvests, that is a *Kharif* and *Rabi* in succession, would be more severely felt. The first result would be a great loss of cattle, many either dying or being sold for next to nothing; and this is what actually happened in the droughts of 1862 and 1868. Besides suffering a great loss of cattle, many of the people would have after a time to incur debt for their own living. Since 1868 there has been a succession of good seasons, very few having been below the average; and this with high prices has not only removed the traces of previous bad years but has raised the Circle to its present state of prosperity.

The rates sanctioned for this Circle and their results are as follows:—

Soil.	Area.	Rate.		Resulting assessment.	Half asset estimate.
		Rs.	A. P.		
Irrigated ..	91	1	6 0	125	401
Rausli ..	52,314	0	11 0	35,966	47,705
Bhúr ..	6,803	0	8 0	3,401	4,459
Total ...	.....	.....	.....	39,492	52,565

These sanctioned rates gave an increase of about 39 per cent.; but the actual enhancement was restricted to 33 per cent. on the former *jama*, and the assessments actually announced, which amounted to 38,265, gave this proportion.

Jagraon. Bét Circle.

The Bét Circle of Jagraon contains 18 villages with a total area of 15,998 acres, of which 9,924 acres or 62 per cent. are cultivated; 4,239 or 26 per cent., barren waste; and the remaining 12 per cent., culturable or recently thrown out of cultivation. To the east for about six miles the river runs at some distance from the high bank; and between them lies a tract three or four miles wide, similar to the Ludhiána Bét, having some land annually inundated, and the rest beyond the direct action of the river (*kachcha* or *mand* and *pucka*). From Bhundri westward the Dháia and river are only about a mile apart, and the floods reach almost right up to the former, while the villages are large, and their lands stretch from the river several miles south of the high bank. There are none of these entirely in the Bét, and a few have been thrown into the Circle, although they have Dháia lands also. In the western villages there is very little *pucka* Bét land. The Budha nála runs through the eastern part of the Circle, and joins the river a mile to the west of Bhundri. Its banks are high, and it does no harm to the land, which is cultivated right up to them.

The land-owners belong to the various tribes in the following proportions: Gújar, 39 per cent.; Rájput, 28 per cent.; Aráien, 15 per cent.; other Muhammadans, 8 per cent.; Hindu Jats, 7 per cent.; others, 3 per cent. Of the whole cultivation 31 per cent. is by tenants, and 69 per cent. by proprietors. The land under tenants is thus divided: held with rights of occupancy, 7 per cent.;

cultivated by tenants who have rights of occupancy or ownership in other land, 11 per cent.; cultivated by tenants who have no such rights, 13 per cent. A large proportion of the land is in the hands of Rájpúts and Gújars; and, as in the Bét tracts of the other tahsils, there is a good deal of debt, incurred principally from want of thrift. But there are a great many well-to-do families in all three tribes (Rájpúts, Gújars, Aráíens); and some of the villages are in very good condition. The land just over the high bank is the poorest in the tahsil; and most of the Dháia villages have also land exposed to the direct action of the river, and therefore not always to be relied on. Some have suffered a good deal by loss of land, and this is a sure cause of debt; but on the whole the Circle may be said to be in fairly good condition. The patwáris' papers show one and a half per cent. sold since Regular Settlement, and ten per cent. (of the total area) as now held in mortgage with possession of the mortgagee. The proportion mortgaged to money-lenders is small (two per cent. of the whole area). Nearly half of the area shown as mortgaged to agriculturists of other villages is in one single village.

The revenue rates sanctioned for this Circle and the estimated results of their application were as follows:—

Soil.		Area.	Rate.	Resulting <i>jama</i> .	Half asset estimate.
Bét.	Irrigated ...	287	Rs. As. P. 3 12 0	1,076	1,686
	Dofasli ...	2,263	2 0 0	4,526	5,200
	Ekfasi ...	3,586	1 4 0	4,483	4,170
Dháia.	Cháhi ...	91	3 0 0	273	488
	Rausli ...	259	1 0 0	259	318
	Bhúr ...	3,438	0 10 0	2,149	2,962
Total ...		...	.....	12,766	14,824

As in other Bét Circles the area to which the rates were actually applied differed from that in the Assessment Report, and the total of the village assessments announced was Rs. 11,364 (the rate *jama* being Rs. 11,314), or an increase of 5 per cent.

The Lower Dháia of Jagraon resembles that of the other two tahsils. It consists in the first place of villages along the high bank, with some good Bét land, irrigated and unirrigated. Some of the villages in the western part run right down to the river and have Bét land, both inundated and beyond the reach of the floods, besides Dháia land. The Circle is about 14 miles from east to west, and 8 from north to south. It contains 57 villages with a total area of 71,966 acres, or 12 square miles, of which 89 per cent. is cultivation. The village sites are generally just on the ridge, and the soil for two or three miles south of them is very light and poor. The surface is uneven in places, and the sand is shifted about by the strong winds from the south-east. The crops and husbandry are much the same as those described for the corresponding Circles of the other tahsils.

Chapter V. B.

Land and Land
Revenue.

Jagraon. Bét Circle.

Jagraon. Lower
Dháia Circle.

Chapter V, B.

Land and Land
Revenue.Jagraon. Lower
Dháia Circle.

The ownership is thus divided amongst the various agricultural tribes : Hindu Jats, 70 per cent. : Muhammadan Rájpúts, 5 per cent. ; Muhammadan Gújars, 4 per cent. ; Muhammadan Aráíens, 11 per cent. ; others, 10 per cent. The Muhammadans hold the villages along the high bank and nearly all the Bét land; the Jats, those further south. The cultivation is in the following proportion : by proprietors, 79 per cent. ; cultivated with rights of occupancy, 8 per cent. ; cultivated by proprietors of occupancy tenants of other land, 8 per cent. ; by tenants with no proprietary or occupancy rights, 5 per cent. The Circle has not many natural advantages, for the soil is mostly poor and incapable of yielding very much ; but some of the Jat villages adjoining the Upper Dháia are more favourably situated, and have good irrigated and unirrigated, as well as poor lands. These are the best villages in the Circle ; and in them the people are very well-to-do. In a few the proprietors are able to go in for a little trade ; and the village sites present an appearance of prosperity, carts, good cattle, and some elaboration of the dwellings being the principal signs. Some few Jat families have taken to money-lending. The villages adjoining the high bank are not at all well-off, both Jat or Muhammadan, and complaints are very generally made. On the whole the Circle is not in such good condition as would have justified much enhancement of the former assessment, but, on the other hand, there is nothing to show over assessment, for the demand was admittedly light. It is only of the poverty of the soil that the people complain. Of the total area of the Circle the Appendices to the Settlement Report show one per cent. as sold since Regular Settlement, and ten per cent. as now held in mortgage. In both cases only about one-third of the land has gone into the hands of money-lenders ; and most of the sales have been to members of the village community. The price realized is Rs. 40 an acre, or Rs. 39 per rupee of Government demand ; and the amount secured per acre on mortgage with possession, Rs. 29, or Rs. 28 per rupee of the demand. These prices are higher than one would have expected from the nature of the soil.

The revenue rates sanctioned were as follows :—

Soil.		Area.	Rate.	Resulting <i>jama.</i>	Half asset estimate.
Bét.	Cháhi ...	1,097	3-12-0	4,114	6,673
	Dofasli ...	2,125	1-10-0	3,453	3,579
	Ekfasi ...	2,157	1-4-0	2,696	2,258
Dháia.	Niái cháhi ...	2,814	3-8-0	9,849	11,260
	Khális cháhi ...	347	2-8-0	868	935
	Rausli ...	10,189	1-2-0	11,463	10,067
	Bhúr ...	44,936	0-12-0	33,702	32,157
Total ...		63,665	...	66,145	66,299

The village assessments actually announced amounted to Rs. 67,012, or an increase of 7 per cent. on the previous demand, the *jama* by rates being Rs. 65,146. In the orders sanctioning the rates it had been indicated that, if possible, an enhancement somewhat over rates should be taken.

The Upper Dháia Circle of Jagraon comprises the remaining villages of the tahsil, 100 in number, with an area of 175,945 acres, or 275 square miles. The Circle varies in width (east to west) from 15 to 20 miles, and is about 18 miles from north to south. The Sirhind canal runs across the whole width. Of the total area 156,424 acres, or 89 per cent., are cultivated, and 11,364 (six per cent.), culturable or fallow, the remaining five per cent. being barren waste or Government property. The soil varies a good deal, being in places a stiff loam which requires a good deal of moisture. Sand drifts occur throughout the Circle, and in their neighbourhood the land is somewhat inferior; but the prevailing soil is a good light loam (*rauslí*) easily worked and very fertile. There are few villages that have not half of their land of this sort; and, even when the rainfall is short, sowing is possible in some of the land. The percentages of good and bad soils are: *rauslí* and *dákhar*, 83 per cent.; *blúr*, 17. Of the cultivated area eight per cent. is irrigated from wells. This land lies mostly in the eastern and northern villages, which are generally smaller and more populous. In the south-western villages the holdings are much larger, and irrigation is not required, while the water, too, is at a greater depth, being upwards of 50 feet from the surface at Hatur, and only about 35 in villages adjoining the Lower Dháia.

The land is thus held by the various tribes in ownership: Hindu Jats, 72 per cent.; other Hindus, 6 per cent.; Muhammadan Rájpúts, 8 per cent.; Muhammadan Gújars, 6 per cent.; Muhammadan Aráiens, 4 per cent.; others, 4 per cent. The principal 'gots' of Hindu Jats are the *Sidhus*, *Dháliwáls* and *Gils*. The "other Hindus" are Khattris, &c., one or two families of the shop-keeping class having acquired proprietary rights here and there before the Regular Settlement. There are also some Hindu *kamíns* (*Chamárs*, &c.) who have proprietary rights in a few villages. The Rájpúts hold several large villages, or parts of villages (Halwára, Talwandi, &c.). The Gújars and Aráiens hold land about Jagraon, one or two of the *Agwárs* or subdivisions of the land attached to the town belonging to them. There are also two or three small *Hárni* villages, and the family of Maulavi Rajab Ali own a good deal of land. Of the whole cultivation 78 per cent. is by proprietors, and 22 per cent. by tenants, made up thus:—cultivated with rights of occupancy, 5; cultivated without such rights, but by tenants who are proprietors or occupancy tenants, 11; by tenants without rights in any land, 6. The Hindu Jats of the Circle are as a class very well off. Their villages are all fine large ones, in the hands of strong communities; but the members of these are not all equally well-to-do. Most have thriven, but a few will be found to be in difficulties, and there is a good deal of extravagance due to the influx of wealth which often results in debt. The Jat proprietors have fully participated in the

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Land and Land Revenue.

Jagraon. Upper Dháia Circle.

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Jagraon, Upper
Dhāia Circle.

profits due to the great rise in price of the inferior grains; and they have developed more expensive tastes, dressing well, keeping lots of brass dishes, and their women having a great deal of jewelry. The cattle, too, are of a superior class; and most villages have a good many carts and camels that are worked for hire or take the owners' grain to Ludhiāna. Large sums are spent on marriage and funeral celebrations, and old men say these expenses have increased threefold; while litigation is a luxury that most of the people indulge in, and will often be found to be the cause of debt. The famines of Sambat 1917 (A.D. 1862) and Sambat 1925 (A.D. 1868) have left their traces in debt, which in many cases has never been shaken off; but the Jat population may safely be said to have thriven under our rule, and to be now in a state of considerable prosperity. Where one of them has got into difficulties and has to mortgage his land, a fellow Jat will always be found able and ready to advance the money; and they could get on very well without the assistance of the money-lending classes, and do so in a great measure. Few of them are unable to dispose of their grain at the market price; and they are generally able to take it direct to Ludhiāna and sell it there. Most of them retain a stock of grain which would be sufficient for two or three years' consumption, and they can tide over indifferent harvests without much loss. During the last ten years a great deal of hard cash has found its way into their hands, and few of them would now have to borrow for the payment of revenue in the worst of years. The Muhammadan villages are not so well off. Except the Raekot family, which holds a large area, the Rājput̃s are all in difficulties, and that although special allowance was made for them in the Regular Settlement. The Arāiens and Gūjars, too, are badly off. The returns show three per cent. of the whole area as sold since Regular Settlement, and twelve per cent. now held in mortgage, most of it with possession. Of the sales three-fourths are to members of the agricultural community and two-thirds of the mortgages with possession are to them. Of the area sold nearly one-third is that of one village bought at the time of Regular Settlement by the Raekot family. The average price is smaller than in the Lower Dhāia, as the inclusion of the village mentioned above has lowered it. The average mortgage money per acre is Rs. 35, or 33 times the Government demand.

The revenue rates sanctioned for this Circle with the results are as follows :—

Soil.	Area.	Rate.	Resulting assessment.	Half asset estimate.
		Rs. As P.	Rs.	Rs.
Niāi chāhi ...	8,948	3 12 0	33,555	37,373
Khālis chāhi ...	3,073	2 8 0	7,682	8,456
Rāusli and Dākhar ...	1,19,495	1 3 0	1,41,900	1,52,784
Bhūr ...	24,908	0 12 0	18,681	20,817
Total ...	.....	.....	2,01,818	2,19,430

The village assessments announced and reported amounted to Rs. 2,01,415, being increase of 20 per cent. on the previous demand.

In the calculations of assessment all agricultural land has been included, whether liable to assessment or not, as it is a cause of great confusion to treat land as a separate class merely because it has been exempted from the payment of revenue. The revenue rates are thus applied to all cultivation; but from the results a deduction must be made on account of *māfi*, or revenue-free land. The following statement gives a comparison between the *jama* of the last year of the old and of the first year of the new Settlement after this deduction:—

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Land and Land Revenue.

General result of the Revised Assessment for the whole district.

Tahsil.	REVENUE (Khālsa and Jāgīr).			
	Former.	New.	Increase with per-centage.	Rate of new assessment on cultivation.
Samrála ...	2,61,871	3,08,588	46,715 18	Rs. As. P. 2 1 5
Ludhiána ...	4,30,281	5,11,852	81,571 19	1 7 10
Jagraon ...	2,33,525	2,71,477	37,952 16	1 3 6
Total ...	9,25,677	10,91,915	1,66,238 18	1 8 5

The appointment of zaildars to be paid by a deduction of one per cent. from the revenue was sanctioned over the greater part of the district, and minor deductions were also made from the full assessment on account of land under gardens and for crops injured by trees growing along the main roads. Besides this, where the period of 20 years during which land irrigated from new wells are protected from enhancement had not expired, a deduction from the full assessment for the remainder of that period was made. The jagirdars, too, take a large share of the increase, and the following statement shows the actual immediate increase to the Government revenue:—

Tahsil.	KHALSA AND COMMUTATION PAID BY JAGIRDARS.		Actual increase.
	Former.	New.	
Samrála ...	2,15,564	248,943	33,379
Ludhiána ...	3,52,556	4,05,789	53,233
Jagraon ...	2,27,991	2,59,566	31,575
Total ...	7,96,111	9,14,298	1,18,187

Thus the net actual gain to Government was Rs. 1,18,187; and this will be increased by about Rs. 6,000 when the well leases have all expired. The gain to the jagirdars was Rs. 25,391 immediate, and Rs. 25,974 after the expiry of the well leases, that is, the net gain to them after deduction of the commutation payable to Government, and included in the above statement.

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Revenue.
 Cesses.

Cesses.	Regular Settlement.	New.
Local rate	...	8-5-4
School	...	1-0-0
District post	...	0-8-0
Road	1-0-0	1-0-0
Patwári	3-2-0	3-2-0
Lambardár	5-0-0	5-0-0
Total	9-2-0	18-15-4

Assignments of land
revenue.

Jágir assignments of
revenue.

The statement in the margin shows the cesses paid at the Regular Settlement and now at the rates per cent. on the revenue. The cesses have been left as they were found in 1880, except for the addition of the District post cesses, which had before been omitted.

Table No. XXX shows the

number of villages, parts of villages, and plots, and the area of land of which the revenue is assigned, the amount of that revenue, the period of assignment, and the number of assignees for each tahsíl as the figures stood in 1881-82. The principal assignments are noticed in greater detail below, the figures being those of the Revised Settlement.

Some account has already been given in Section F of Chapter III of the principal Jágirdárs of the district. The Malaudh family, which alone enjoys half of the whole jágir income of the district, had established itself under the Empire. The others are mostly the descendants of the petty Chiefs or Confederacies who, on the downfall of the Delhi Empire at the close of the last century, partitioned the country between them, and came under our protection in A.D. 1809 in the manner described in Chapter II. These Chiefs and Confederacies were at that time virtually independent, though it is probable that, but for our interference, they would all have been eventually absorbed by their more powerful neighbours. A few of the Jágir families, again, have been from the first dependent, having originally had an assignment of a few villages made them by some one of the more important Chiefs (*e.g.*, Kapurthala, Nábha), and being transferred to us in the annexation of 1846. From 1809 till the outbreak of the first Sikh war in 1845 we had little to do with the internal administration of the estates of the jágirdárs, who were allowed to govern much in their own way; but at the close of the Sutlej Campaign in 1846 a great change was effected in the status of all but the seven important Cis-Sutlej Chiefs, who were maintained in the full enjoyment of that virtual independence which is allowed to protected States (See Griffin's "Rájas," where the proclamation of the Government of India on this subject is given *in extenso*). All villages not belonging to the seven excepted Chiefs were incorporated in our territory along with what we had acquired by conquest and confiscation from Lahore, Nábha, &c.; but even after this we exercised but little authority within the estates of the jágirdárs, for we only abolished the transit duties and deprived them of their police jurisdiction in the first instance. When, however, the second Sikh war was followed by the annexation of the whole of the Punjab, their power was still further curtailed; and finally, about 1850, it was decided to substitute for their hitherto undefined exactions from the people a fixed cash revenue demand. This last measure, when carried out, reduced all jágirdárs alike to the position of mere assignees of Government revenue; and it was a great blow to most of them. They had consi-

dered themselves as lords of the soil ; and it does not appear that their rights over the land were at all inferior to those of the zamindars of Bengal. The jágirdars had realized from the cultivators a full proprietor's share of the produce, and there was really no limit to their exactions, except the fear of driving away their villagers. To most of the families who had before been independent the jágirs were continued in perpetuity, unless, of course, they had compromised themselves in the Sikh war and were punished for this by confiscation. The tenures of the others were considered on annexation, and more or less favourable terms were given, some being maintained in whole or in part for the lives of the holders only ; and when this course was pursued, subsequent lapses have reduced the villages to the condition of *shared*. In other cases the original grants were only of a portion of a village.

The Chiefs and Confederacies had always been liable to pay tribute or furnish levies, or both, to the paramount power ; and the contribution had taken the latter form on their coming under our protection. When the final change to a fixed cash assessment was introduced after 1849 it was natural that the irregular demands for which the jágirdars were liable should be replaced by a certain tribute. This in most cases took the form of a contribution at the rate of so much (one to four annas) per rupee of revenue ; but for some of the Confederacies it was the estimated cost of maintaining a certain number of horsemen or footmen. In Lodhran and most of the small jágirs the rate of commutation is two or four annas per rupee of revenue ; while in Malaudh it is two annas, except in the branch of Sardar Mit Singh, in whose favor a reduction was made to one anna on account of services performed in the Mutiny. As an example of the second form of payment, and as the solitary instance in the district of the *istamrari* tenure, the case of the village of Lalton may be mentioned. This is held by the descendants of a Garewál Jat, called Chauhdri Gahnda, subject to a fixed payment of Rs. 1,100 per annum, and the cost of maintaining four horsemen at Rs. 16 each per mensem, *i.e.*, Rs. 768 per annum. For the collection of the commutation money in some of the minor jágirs, where the shares are much subdivided, the head of the family has been appointed *Sarkarda*, or headman, and receives a percentage deduction from the amount which he pays into the Government treasury for the whole jágir.

The jágirdars besides enjoying the revenues of their villages will be found in many cases to hold in absolute ownership a considerable area of land. This is usually the *Bár*, or waste land reserved by the ancestors of the family for their own use, as a grazing ground and for the supply of firewood, &c. These *Bárs* have, with the exception of one or two in the Malaudh parganah, been brought under the plough long ago, and are cultivated by the tenants of the jágirdars. The land of absconding cultivators was also considered as belonging to the Chief, and the Malaudh Sardars acquired a considerable amount of landed property in this way just after the introduction of the cash demand of the Regular Settlement.

The following abstract statement gives all the necessary details as to each of the existing jágirs of the district :—

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Land and Land Revenue.

Jágir assignments of revenue.

Commutation money paid by Jágirdars.

Land owned by jágirdars.

Chapter V, B.
Land and Land
Revenue.
 Statement of jágirs.

1 Number.	2 Name of Jágir.	3 Name of Jágirdár.	4 Number of villages.	5 Jágir or Shared.	6 Revenue of Jágirdár.	7 COMMUTATION MONEY.		8
						Rate.	Amount	
1	Lodhran	Sardar Shamsher Singh and others	25	Jágir	24,108	Two annas per rupee	3,014	
2	Jabu Mazra	Sardar Ganda Singh and others	8	Do ...	10,722	Ditto ..	1,340	
3	Bhari or Kotla Badla	Sardar Lal Singh & others	4	Do ...	7,611	Ditto ...	951	
4	Sontiwála	Hira Singh and others ...	3	Do ...	6,231	Ditto ...	654	
5	Dhín Malána	Sardar Kirpal Singh ...	1	Do ...	2,206	Ditto ...	276	
6	Khosa	Bishen Singh	1	Do ...	544	Ditto ...	69	
7	Shamspur	Mit Singh and others ...	2	Do ...	2,537	Four annas per rupee	647	
8	Kotla Ajner	Joala Singh and others...	4	Shared	2,066	None		
9	Nishánawála	Bishna Singh and others	4	Do ...	2,343	.....	361	
10	Saloudi (fraternity) ...	Dasondha Singh and others	4	Do .	1,703	None ...		
11	Bágrian	Rhai Narain Singh ...	1	Jágir	1,109	Ditto ...		
12	Jalewála	Mt. Kishen Kour ...	1	Shared	263	Ditto ...		
TOTAL TAHSIL SAMRALA			58	.....	60,493	.....	7,311	
1	Námgarh	Sardar Utam Singh ...	33	Jágir	43,136	Two annas per rupee	5,391	
2	Malaudh	Sardar Baden Singh ...	12	Do ...	15,700	One anna	987	
3	Ditto (younger branch)	Sardar Sundar Singh ...	6	Do ...	7,792	Ditto ...	487	
4	Her	Sardar Balwant Singh ...	13	Do ...	18,369	Two annas	2,291	
5	Khosa	Dewa Singh and others...	4	Do ...	3,353	Ditto ...	419	
6	Pir Kot	Pir Dalip Chand ...	1	Do ...	1,035	Ditto ...	129	
7	Bágrian	Rhai Narain Singh ...	1	Do ...	4,952	One anna	229	
8	Arnauli	Rhai Anokh Singh ...	1	Do .	1,832	Two annas	229	
9	Hans	Samand Singh and others	5	Shared	2,506	None.		
10	Miscellaneous ... ..	.....	14	Do ...	10,632	.....	2,074	
TOTAL TAHSIL LUDHIANA			90	.....	1,09,387	.....	12,239	
Jagraon Tahsil, miscellaneous petty jágirs ...			13	Shared	7,723	None.		
TOTAL OF THE DISTRICT			161	.....	1,77,603	.....	19,550	

Out of the revenue of the jágirdárs shown in column 6 they have to pay the commutation money shown in column 8. The Jagraon tahsil was held entirely by the Rais in the first place, and after them by the Kapurthala Chief, from whom we annexed it; and the jágirs in it are really charitable grants of whole villages or shares, there being nothing to correspond with those held by the families and confederacies of the other tahsils.

Máfis.

Regarding minor assignments of revenue the Settlement Officer writes as follows. "The grants of the district were of the usual three classes—(1) in perpetuity, (2) for the maintenance of institutions, (3) during the life or lives of the grantees; but the greater part of them were of a fourth class, (4) sanctioned for the term of the Regular Settlement. With respect to (1), (2) and (3) our enquiries brought to light no discrepancies of any importance. The grants for the term of Settlement (4) were either personal, in favour of Brahmans or others of the priestly class; or they were for the support of some religious or charitable institution. Most of them were petty and unimportant, and it had clearly never been the intention that they should be enjoyed in perpetuity. The principles on which we have now dealt with them are as follows. Where the object of the grant was the support of some institution and this was found to be main-

tained, continuance was recommended and sanctioned. Where the grant was a personal one, and the original grantee or his children were in possession, the same course was followed; but where the grant was personal, and was held by a number of sharers, the descendants in the third or fourth generation from the original grantee, we generally recommended resumption, or rather that the grant should be allowed to lapse. The new sanction usually continues the grant for the term of the Revised Settlement or for the life of the holder, whichever period expires first; but in the case of the grantee dying within the period of the Settlement, the Commissioner has the power of continuance to the heirs for the remainder of this period.

The following is a statement of the number of cases and the area of the petty grants of all kinds in the district as they now stand:—

NAME OF TAHSIL.	HELD IN PERPETUITY WITHOUT CONDITION.		HELD FOR MAIN-TENANCE OF INSTITUTION.		HELD FOR LIFE OR LIVES.		HELD FOR THE TERM OF SETTLEMENT.		TOTAL.	
	Number of cases.	Area in acres.	Number of cases.	Area in acres.	Number of cases.	Area in acres.	Number of cases.	Area in acres.	Number of cases.	Area in acres.
Samrāla ..	37	61	52	263	37	226	64	625	190	1,175
Ludhiana ...	35	259	110	1,451	74	810	227	1,943	446	4,463
Jagraon ...	33	331	64	773	51	714	183	1,202	331	3,070
Total ...	105	701	226	2,487	162	1,750	474	3,770	967	8,708

Table No. XIX shows the area of land acquired by Government for public purposes. The forests have already been noticed in Section A of Chapter IV.

Government lands, forests, &c.

Table No. XXIX gives figures for the principal items and the totals of land revenue collections since 1868-69. The remaining items for 1880-81 and 1881-82 are shown in the margin.

General statistics of land revenue.

Source of Revenue.	1880-81	1881-82
Surplus warrant <i>talabānah</i> ..	...	233
Fisheries ...	78	74
Revenue fines and forfeitures ...	123	18
Other items of miscellaneous land revenue ...	111	107

Table No. XXXI gives details of balances, remissions, and agricultural advances for the last fourteen years; Table No. XXX shows the amount of assigned land revenue; while Table No. XIV gives the areas upon which the present land revenue of the district is assessed.

The areas upon which the revenue is collected are shown in Table No. XIV, while Table No. XXIX shows the actual revenue for the last 14 years.

The statistics given in the following tables throw some light upon the working of the Regular Settlement: Table No. XXXI.—Balances, remissions, and takavi advances. Table No. XXXII.—Sales and mortgages of land. Table Nos. XXXIII and XXXIII A.—Registration.

CHAPTER VI.

TOWNS AND MUNICIPALITIES.

Chapter VI.
Towns and Municipalities.
 General statistics of Towns.

At the Census of 1881 all places possessing more than 5,000 inhabitants, all municipalities, and all head-quarters of districts and military posts were classed as towns. Under this rule the following places were returned as the towns of the district :—

Tahsil	Town.	Persons	Males	Females.
Ludhiána	Ludhiána	44,163	24,685	19,478
Jagraon	Jagraon	16,873	8,816	8,057
	Raikot	9,219	4,783	4,436
Samrála	Machiwára	5,967	3,271	2,696
	Khanna	3,988	2,244	1,744
	Bahlolpur	2,842	1,579	1,263
	Total	83,052	45,368	37,684

The distribution by religion of the population of these towns and the number of houses in each are shown in Table No. XLIII, while further particulars will be found in the Census Report in Table XIX and its appendix and Table XX. The remainder of this chapter consists of a detailed description of each town, with a brief notice of its history, the increase and decrease of its population, its commerce, manufactures, municipal government, institutions, and public buildings ; and statistics of births and deaths, trade and manufactures, wherever figures are available.

Town of Ludhiána :
Position.

Ludhiána is the principal town and the head-quarters of the district. It is situated on the ridge just over the Budha nála, or former bed of the Sutlej, and about six miles from the present course ; and lies on the Sindh, Punjab and Delhi Railway, and the Grand Trunk Road (Delhi to Lahore), the distance from Lahore being by these 116 miles. It is also connected with Ferozepore by a metalled road of 72 miles length.

History under native rule.

The town was founded in the time of the Lodi Emperors, on the site of a village called Mírhota, the date recorded being 898 Hijri (A.D. 1481). The founders were Yusaf Khán and Nihang Khán Lodis, or perhaps the latter alone ; and there is no reason to doubt the generally accepted origin of the name *Lodiána*, although this has been corrupted into the present form *Ludhiána*. The situation selected was a slight eminence on the south bank of the Sutlej, commanding the passage of the river, on the high road from Central Asia to India. The history of the town is in a great measure that of the district, and will be found in Chapter II. Under the Lodis it was the seat of Government for this part of the Empire, and a large fort was built on the site of the present one by Jelál Khán, grandson of Nihang Khán. The Mughals fixed the headquarters of the *Sarkár*, or division of the Province (*Subah*), at Sirhind, and Ludhiána was only a mahál* or district ; but it did not lose its importance ; and, to judge from what are said to have been the boundaries of the Lodis' city, it must have had a population of 5,000

or 6,000. Neither did it suffer from the Duráni invasions, although, as already noticed, Nádir Sháh is said to have ordered a general massacre of the people. On the downfall of the Mughal Empire it passed quietly into the hands of the Rais about the year 1760; and under them enjoyed the same measure of prosperity as before. Rai Kalha improved the fort, and it was one of the *thánahs* under the rule of this family. Máharája Ranjít Singh took it with the rest of the country from Ráni Bhág Bhari in 1806, and gave it to his uncle, Rájah Bhág Singh of Jínd. When Sir D. Ochterlony advanced to the Sutlej in 1809 land was allotted to us for a cantonment to the west of the town; but we held nothing else till 1835,* when, on the death of Rájah Sangat Singh, the town and country about became our own possessions (See Chapter II for details of the above sketch).

When the town was transferred to us it appears to have occupied the space between the fort and ridge over the lowlands (which latter was the boundary on two sides), and the present Chaura Bazár up to the Sabzmandi, and on from that the Hazuri Sarak. The present Municipal Hall and the Tomb of Pir Roshan† are situated outside the old limits on the west; but to the east of this the houses covered the whole of the unoccupied space between the fort and the present town. Mr. Walker has been unable to find any record of the estimated population of that time. The old Imperial Road entered the town on the eastern side, where now the houses of the American Mission settlement stand; and the Residency was also on this side; while the cantonments lay to the west, the present civil station being the remnants of them. Under Sir Claude Wade (1823-38) and his successors the town increased in size and importance, spreading out to the southwards. It became the centre of a very extensive trade in grain, sugar, cloth, &c., which found its way down the Sutlej in boats from Phillour. There had always been a small colony of eight or ten families of Kashmíri weavers in the city; but in the year 1833 A.D. a famine in Kashmír drove numbers of this class all over the country, and some 1,500 to 2,000 of them were settled in the town, and started in trade by the exertions of Sir C. Wade. In 1842, on our withdrawal from Cabul, the family of the Amir Shuja-ul-Mulk, with a numerous body of adherents and attendants came with us; and Ludhiána, then a frontier station, was fixed on as their residence. They at first took up their abode on the west side of the city; but soon after shifted to the south side, where the land on which their houses and gardens now stand was assigned to them. When after the Sutlej campaign the Ludhiána district was formed, the civil offices were removed to the cantonment side of the city; and in 1854-55 the Grand Trunk Road was metalled and realigned to its present position. In 1854 the cantonments were abandoned, a small force being retained as a garrison of the fort; but this change does not appear to have much affected the town, which, with the improved communications, was becoming more

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History under native rule.

History under our rule.

* Although the town was not nominally ours till 1835, the Political Agents appear to have exercised paramount influence in it from the first, and many of the improvements effected in it date from before 1835.

† "Pir Abdul Qadir Jaláni" (see para. 64).

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History under our
rule.

important every year as a centre of trade. The events of the mutiny are related in Chapter II. The houses of the city at that time came to within a short distance of the fort; and, when the garrison mutinied, it was found to be in communication with the town people just outside of it—Sufis, Suds, Gújars, &c. Mr. Ricketts, on the departure of the mutineers, ordered the demolition of all the houses within a radius of 200 or 300 yards of the fort, the inhabitants settling down where they could. The Gújars were removed to their lands below the city; the Sufis took up their abode in the vicinity of the Cantonment Bázár, where they now live; and the Suds and others spread themselves over the city. The opening of the Railway from Delhi to Lahore in 1870 gave a great stimulus to the trade of Ludhiána; and a number of shops and saráis were built along the Grand Trunk Road, facing the station.

General description
of the town.

The town is situated in an angle of the ridge or high bank, which to the east of it runs due north and south and then turns westward, forming the boundary on two sides. The houses are mostly built of masonry. In the old part, of which the limits have been indicated in the last paragraph, they rise storey over storey, and are crowded together; while the streets and lanes are narrow and tortuous. But the new town to the south of the Chaura Bázár bears all the marks of being modern. The streets are wide and straight, and the houses and shops mostly of one pattern. The principal streets, the Chaura Bázár and the Hazuri Sarak, were designed by Sir C. Wade himself; and one of his projects, the Iqbal Ganj, is a standing proof that he was rather too sanguine about the speedy development of the town for which he did so much. His successors, Assistant Agents and Deputy Commissioners, have each added something—*e.g.*, the *Murray Ganj* (Captain Murray), *Ghalla Mandi*, or grain market (Captain Larkins), and the *Kaisar Ganj*, the last within the last two or three years. In the old parts of the town, such as the Naugarah square, the houses are many storeys high, but in the new town they are generally of only one as yet, though some of the people along the Chaura Bázár have added a second. The old town was divided into *mahallas* according to tribes (Suds, Sufis, Saiads, &c.); but these have mostly been lost sight of. Attached to the city is a large area owned principally by Saiads, Gújars and Aráiens, most of whom reside within the town limits or in the old military bázár, and this land is divided into eight *Tarafs*.

Population and vital
statistics.

The population as ascertained at the enumerations of 1868, 1875 and 1881 is shown below :—

Limits of enumeration.	Year of census.	Persons	Males.	Females.
Whole town ...	1868	39,983	21,701	18,282
	1881	44,163	24,685	19,478
Municipal limits ...	1868	39,983		
	1875	40,385		
	1881	44,163		

The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. It would appear from information supplied by the Deputy Commissioner that some suburbs have been included since 1868 within the municipal boundary, and in particular one called the Chhauni, with a population of 1,248 souls. This leaves an increase of 2,530 within thirteen years so far as the figures go. But the Deputy Commissioner is strongly of opinion that the real increase is much larger, and that the figures of 1868 were in excess of the truth. He attributes the large increase, which he describes as obvious and palpable, to the opening of the railway, and the consequent erection of Ludhiána into a collecting centre for the grain traffic.

The constitution of the population by religion and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table XX of the Census Report of 1881. The annual birth and death rates per mille of population since 1868 are given below, the basis of calculation being in every case the figures of the most recent Census:—

Year.	BIRTH RATES.			DEATH RATES.		
	Persons	Males	Females.	Persons.	Males.	Females
1868 ...	...	...	...	16	18	13
1869 ...	...	...	...	32	33	30
1870 ...	8	9	7	35	34	36
1871 ...	17	16	17	21	22	20
1872 ...	18	10	7	34	33	36
1873 ...	26	14	13	19	20	18
1874 ...	43	23	20	28	27	30
1875 ...	42	22	20	39	37	41
1876 ...	45	23	22	45	39	53
1877 ...	43	21	21	36	33	41
1878 ...	42	22	20	111	100	125
1879 ...	22	11	11	55	55	66
1880 ...	43	22	21	38	33	39
1881 ...	45	23	21	37	34	41
Average	35	19	18	41	38	43

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

From the situation of the town over the lowlands and the swamps along the Budha nála one would expect malarious fever to prevail in the months following the rains. In some years, such as 1878, there has been a tremendous loss of life from this cause, the half-starved Kashmírís and others of the lower classes not having sufficient stamina to resist the attacks of the disease. Between six and seven per cent. of the whole population died from fever alone in that year (1878); and the death-rate, which had averaged 33 in the preceding five years, rose to 111. But at other times the town cannot be said to be unhealthy, and there has been no epidemic of cholera since 1872. The sanitary arrangements are good for an Indian town, and the system of drainage appears to be now efficient. Inspection reports since 1878 speak well of Ludhiána, which was before considered to be very backward in this respect, the improvement being ascribed to the exertions of Mr. Wakefield,

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the present Deputy Commissioner. The supply of drinking water is from wells inside the town, the quality being apparently very bad on analysis ; but it is said that it has evil effects only on new comers. The average death-rate does not compare unfavourably with that of most Punjab towns.

Reference has already been made to the ever-increasing grain trade of which Ludhiána is the *entrepôt* ; but this appears to be mostly in the hands of merchants from down country ; and the town cannot perhaps be said to have much connection with it. The returns of municipal taxation for last year give the following values of the various articles of trade which were taxed :—

Grain	...	...	...	Rs.	25,79,568
Sugar products	...	...	...	"	2,81,259
Cloth	...	...	...	"	6,50,086
Iron	...	...	...	"	24,304
Brass and metal dishes	...	...	...	"	20,378
Others	...	...	...	"	4,21,590
Total Rs.					37,83,185

Grain in transit is, at all events nominally, untaxed, that is, if it does not change hands within octroi limits, which embrace the railway station and encamping ground. Wool, cotton and salt are also exempted. In the last of these there is a considerable trade. The following estimate is given of the value of the imports in these three articles :—

Salt	...	...	...	Rs.	30,000
Pashm	...	...	...	"	50,000
Cotton	...	...	...	"	30,000

**Woollen weaving,
pashmīna.**

It is for its weaving industry, however, that Ludhiána is principally famous ; and this is of two sorts—woollen and cotton.* The former of these, the manufacture of the cloths known as pashmīna and Rámpur chadars from Thibetan and Rámpur wool, is at present entirely in the hands of the Kashmiri colony, although some of the country weavers are said to be picking it up. The raw material is of two classes—*pashm*, or the fine wool of the Thibetan goat ; and *Rámpuri un*, or that of the nearer hills. The former is said to come from the *Barfáni* country, which is rather indefinite geographically. Both wools are brought finally from Rámpur, which appears to be the *entrepôt* of the trade, by the *gaddis* or hill men. These men used to take the direct route *viá* Rupar ; but now generally reach Ludhiána from Umballa by rail. Within recent years (20 or 30) a third class of wool has begun to be imported from Kirmán, in Persia, *viá* Karáchi and Lahore ; and this is used as a substitute for Rámpur wool. The wool from the hills is brought here in the months of October and November, and the annual amount of the sales is estimated at Rs. 50,000. The purchases are made, in the first instance, by Hindu merchants, who take large amounts of it, and retail them to a second class of traders, or to the Kashmiris. The wool is spun into thread by women of all classes, Hindu and Muhammadan, rich and

* See also Mr. Kipling's note on the manufactures of the District in Section C of Chapter IV.

poor; and any woman can earn from rupees three to four a month by this. The Kashmíri gets a few rupees worth of wool or thread from the merchant (*maháján*) and weaves it into a *chadar* or piece six to eight yards long and $1\frac{1}{2}$ to $1\frac{1}{4}$ yards wide (Kashmíri measure). The cloth is of two descriptions—*pashmína* and *naqli pashmína*, the former entirely of *pashm*, and the latter a wool (*bána*) of *pashm* on a warp (*tána*) of Rámpur wool and sometimes of Kirmáni. It is designated generally as *alwán*, and is white in colour when it comes off the loom, but may be dyed red, green, &c., according to taste. The *chadars* are purchased by well-to-do natives for wearing over the shoulders like an ordinary cloak, the piece being cut into two lengths of about three yards each, which are joined at the corners and worn double. The shawl industry (*sál báfi*), or the weaving from *pashm* thread of Kashmir shawls was perhaps the most important branch of all; but it has never recovered from the complete stoppage of the trade in these articles on account of the Franco-Prussian war (1870). It is said that there were upwards of 1,000 Kashmírís engaged in it before that time, and an out-turn of more than Rs. 1,00,000 worth of shawls; but France was the principal customer, and has ceased to take any since 1870; and there are now not more than 100 looms (single), the rest of the weavers having turned their hands to what they could, many being reduced to beggary. There appears now to be no demand anywhere for good shawls. Native States used to take them for dresses of honor, &c.; but do not now to anything like the same extent. The only shawl work at present done is in coarse wool, what we know as *jámevárs*. These are worn by natives as cloaks and are also exported towards Persia, where they are said to be used for waist cloths, or are cut into strips for borders of *choqas*, &c. A little fine work is still done in making wide borders for cloaks, the centrepiece being plain *alwán*. The coarse work turned out is not worth an hundredth part of what the fine shawl work was, a piece of *jámevár* selling for a few rupees where a shawl would have sold for Rs. 200 to 300. An ordinary *chadar* of *pashmína* costs Rs. 20 to 30, and of *naqli pashmína*, Rs. 15 to 20. The looms are almost entirely single, and not more than two or three men ever work together, unless where apprentices learn the art from a master-weaver. The district return gives 900 looms with 960 weavers, but Ahsan Sháh, who is the representative of the body of Kashmírís, gives an estimate of 400 looms with 1,300 men and boys, weavers and apprentices. The Kashmíri population of the district is returned in the recent Census as 2,492, but a large proportion of these are in service or have other occupations. The *pashmína* and Rámpur *chadars* of Ludhiana sell all over India; and the value exported is estimated at $1\frac{1}{2}$ lakhs, but the industry is said to have earned a bad reputation in recent years owing to the mixture of the inferior Kirmáni wool. The *pashmína* is mostly bought up from the weavers by large merchants, either Hindus or Kashmírís. On the whole the *pashmína* industry appears to be on the decline, and Ahsan Sháh says that the weavers are leaving the town, as the cloth is becoming a drug in the market. The Kashmírís also knit stockings, gloves, &c. There are a good many looms at which common country blankets are woven by *Ma:khis*

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pashmína.

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 Cotton weaving.

(Chúhras or Chamárs converted to Sikhism). The miscellaneous looms of all these sorts are returned as 400.

The other important industry of the town is in the hands of the country weavers (*Juláhas*), who make from cotton the cloth known as Ludhiána cloth, and locally as *gabrun*; and also *lungis* or turbans, *khes*, *chadars*, &c. The *gabrun* is of a checked or striped pattern, and is made in pieces of 15 to 20 yards length, and about a yard width. The *lungis* are of blue and other colours, and have embroidered ends, with or without gold thread. The *gabrun* is in great demand for making clothes for Europeans and well-to-do natives, and there is a large export of it in all directions. The *lungis* go principally in the direction of Lahore, and are much used by the Frontier people as turbans. There is also some manufacture of table linen, the cloth known as *susi*, and many others. The number of looms weaving cotton stuffs is returned in the district statement as 400, but a reliable estimate given to me fixes it at 900. The looms, as in the case of *pashmína*, are mostly single; but the estimate referred to sets down the number of weavers and apprentices at 1,700. The same loom may turn out in succession all sorts of cloth, according to the demand—*gabrun*, *lungi*, *khes*, &c. The cotton industries are flourishing, and there is an increasing demand for all sorts of cloths woven at Ludhiána.

Embroidery.

Embroidery on *pashmína* is done by the same Kashmírís who weave the cloth, and by their children. The latter are generally put on this when first their instruction begins. The thread used is silk, and all sorts of designs are worked on the margins of the *chadars*, *chogas*, *rumáls* (scarves), smoking-caps, &c. Embroidery work is also done on the *lungis*, and on caps with gold thread by Kashmírís, and by country weavers; and there are eight or ten shops where silk embroidery is worked on broad cloth for table covers, cushions, slippers, &c.*

Carpentry and
miscellaneous.

The carpenters of Ludhiána are famous for good work; and 200 shops are returned in which *dák gharries*, carriages and carts on English models, chairs, tables, &c., are made. The leather and other industries are not of much importance.

Municipality and
octroi.

The town has a Municipal Committee of the second class, with thirteen members appointed by Government, the Deputy Commissioner being President. The average income for the last seven years from octroi is Rs. 53,400. The increase during the last few years has been enormous :—

1876-77	...	...	...	...	Rs. 37,651
1877-78	...	...	...	...	" 47,025
1878-79	...	...	...	...	" 48,916
1879-80	..	...	...	...	" 55,076
1880-81	...	...	...	...	" 57,353
1881-82	...	...	...	...	" 56,491
1882-83	...	...	...	...	" 71,288

* The embroidery is usually of two classes, called *karchobi* and *dori*, and is worked with silk or gold thread on *pashmína*, merino, broad cloth, &c. In the first of these the cloth is stretched on a frame horizontally before the worker, and the work is coarser; while in *dori* embroidery the thread and the work are finer. A third sort of work is called *ári*, and is done with an awl, being very coarse.

Thus in 1882-83 the taxation was at the rate of nearly Re. 1-12 a head of the population ; but the greater part of it is levied on the grain trade, some Rs. 40,000 being derived from this source in 1882-83. The expenditure for the last year has been under the following heads :—

Octroi establishment	...	...	...	Rs. 5,411
Police	...	...	...	" 9,115
Education	...	...	...	" 5,865
Sanitation	}	...	...	" 13,926
Establishment		...		
Hospital	...	...	...	" 3,051
Paving streets, making drains, &c.	}	...	...	" 10,716
Miscellaneous		...		
			...	" 5,491
		Total	...	Rs. 53,575

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Public buildings and institutions.

The principal educational institutions are the Government High School, with an attendance of 189 boys ; the Primary Government School, 211 ; the Mission School, 527 ; a Hindu Aided School, 123. There are only two regular printing presses, one belonging to the American Mission Society, which publishes a weekly journal called *Nur Afshán*, and the *Dharm Saháik* press maintained in connection with the Hindu School above mentioned. The principal public buildings and offices are the Municipal Hall, the Post Office, Dák Bungalow, Kotwáli or Police Station, Tahsíl and Telegraph offices, which all lie near the entrance of the Chaura Bázár, just outside the town to the west ; and the Railway station. Across the Railway line, which separates it from the city, at a distance of about quarter of a mile, is the district office or *Kacheri*, while beyond this lie the church, the cemetery, and the few houses of the European district staff. To the north of the city the fort is situated on a point of the ridge overlooking the lowlands. It is a square structure with a high mud wall and a deep ditch, the inside measuring about 100 yards each way ; and it owes its present form to Sir D. Ochterlony, who made use of the bricks found in the neighbouring ruins of Sunet for building it. The principal streets of the town are the Chaura Bázár, which runs east and west the whole length of the town, the Bazázan, Pansári, Lucha and Lakar Bázárs, Wade Ganj, Hazuri Sarak ; and the squares or market-places are the Ghalla Mandi, Kaiser Ganj, and others belonging to private persons. It is in these last squares and market-places that most of the dealings in the grain trade inside the city go on. There is always a great deal of business in the Chaura Bázár, where cloth, shoes, &c., are hawked about ; and of an afternoon it is crowded with people along the whole length. There are two or three seráis along the Grand Trunk Road, facing the Railway station, in which grain is stored, those of Ali Muhammad of Jhajjar, Kanahia Lál, &c. Outside the city to the south lie the houses and gardens of Sháhzáda Sháhpur, and the other refugees ; and beside them are the Jail and Dispensary, while the Mission Settlement is situated further on at the south-east corner.

Ludhiána is one of the most important of the American Mission stations in the Punjab. The following brief history of it is furnished by the Reverend E. M. Wherry.* " Established in 1836

* For further information see Section C, Chapter III.

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by the Reverend J. Newton and a colleague, the Reverend James Wilson; burnt down in 1845 by the Sikhs, and again destroyed by mutineers in 1857. It publishes books and tracts, mostly religious, in Urdu, Hindi, Punjābī, Kashmīrī, Sindhi, Thākari and English. Over five millions volumes have been printed since it began, and now the number averages about 250,000 annually. The *Nur Afshān* newspaper is published since 1872, circulation 750 weekly." The settlement consists of three or four European and a number of native houses just outside the limits of the town, with a church, printing press, &c. There is another church at the west end of the Choura Bazar beside the Kotwālī, and a school building beside the Kaiser Ganj. In the printing press excellent work, typography and lithography, is done; and there are also workshops attached to the Mission in which wood-work, book-binding and other industries are carried on. Adjoining the Mission compound is the Native Christian Girls' School.

Objects of interest.

The principal places of interest have been mentioned in the preceding paragraph. To the west of the Railway and behind the district offices is a *Rakh*, or plantation, under the Forest Department. This is traversed by roads in all directions lined with ornamental gardening; and it also contains a very good zoological collection. The *Rakh* is a great place of resort as a drive for the Europeans and rich natives; but all classes of the town and country people frequent it, coming to look at the beasts and birds. On the last Saturday of every month there is a fair held in it, and this is attended by crowds of people. The old cantonment has completely disappeared, except such houses as have been kept for the European residents, and a few offices close to the town, and the church and cemetery. The marks of the compounds are visible in places, but most of the land occupied by the old lines is now under cultivation. There are few antiquities in or around the city. The tomb of Pir Abdul Qādir Jalāni has already been referred to. This is in the open space to the south of the fort. There is also an old tomb in the Saiad's mohalla of one of their ancestors, (Saiad Ali *Fil Mast*) to which is attached a grant of land, and several Hindu temples (Shivālās and Thākardwāras) of recent date. The mound of Sunet lies about three miles west of the town.

Jagraon.

The second town in importance is Jagraon, which lies at a short distance to the south of the road connecting Ludhiāna and Ferozepur, 24 miles west of the former. It is the head-quarters of the tahsil of the same name, and has a population of 16,873; but the greater part of this is made up by the suburbs, called *Agwārs*, which are really ordinary villages, each with a large area of land attached to it, and inhabited by the same classes as other villages. The town population proper is only 6,777, leaving 10,096 to the suburbs. In the town proper the houses are nearly all of masonry, and many of those belonging to the mercantile community are very fine buildings, several storeys high. Owing to the flatness of the surrounding country the town can be seen from a great distance on all sides, and has a very imposing appearance. The streets are fairly straight and wide for a native town, and are well paved. The situation is most healthy, being well removed from the river; and the climate, though

very hot at times, is dry and salubrious. The death-rate of five years previous to 1878 was 38; but in that year the town suffered like others from fever. The population has increased by six per cent. since 1868.

The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown below :—

Limits of Enumeration.	Year of Census	Persons.	Males.	Females.
Whole town ...	{ 1868 1881	15,881 16,873	8,179 8,816	7,702 8,057
Municipal limits ...	{ 1868 1875 1881	15,881 16,321 16,873		

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of the suburbs, throw some light on the matter. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. It would appear from information supplied by the Deputy Commissioner that some of the smaller Suburbs have

Town or Suburb.	POPULATION.	
	1868.	1881.
Jagraon Town ...	7,096	6 777
Agwār Gūjrao ...	2,908	3,393
Do. Ladhāi ...	2,090	2,466
Do. Khwāja Bajū ...	1,090	1,289
Do. Lapon ...	966	1,193
Do. Pona ...	656	661
Do. Rahillān ...	542	567
Do. Dala ...	543	527
Total ...	15,881	16 873

been included within municipal limits since 1868.

The constitution of the population by religion and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table XX of the Census Report of 1881. The annual birth and death-rates per mille of population since 1868 are given below, the basis of calculation being in every case the figures of the most recent Census :—

Year.	BIRTH-RATES.			DEATH-RATES.		
	Persons.	Males.	Females.	Persons.	Males.	Females
1868 ...	...	...	...	...	...	...
1869 ...	...	...	...	27	30	24
1870 ...	16	18	13	40	43	37
1871 ...	24	29	19	24	25	24
1872 ...	21	13	9	59	68	55
1873 ...	24	13	11	19	20	18
1874 ...	39	21	18	30	25	35
1875 ...	39	20	19	40	39	40
1876 ...	41	23	18	39	36	41
1877 ...	78	39	38	64	...	...
1878 ...	39	22	17	68	67	69
1879 ...	33	18	15	45	46	44
1880 ...	51	26	25	33	33	33
1881 ...	49	25	24	37	38	37
Average	40	22	19	40	38	38

The town is of no antiquity, and the account given of its founding is this. The country about was lying waste when, some 200

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years ago under Rai Kalha, a Muhammadan *faqir* called Lape Sháh, took up his residence on the site of the present town, and prophesied that a city would be built there, the streets of which he marked out as they now run. Rai Kalha called cultivators from all parts—Gújars, Aráfiens and Jats; and assigned them the lands round the site according to the number of each tribe; and also settled a mercantile community, whose dwellings he enclosed with a wall, the agricultural populations settling down each body in a site in their own land outside this city. These outlying sites were shut in with the usual hedges (*wár*), hence the designation of the suburbs from *ág* (forward or outer) and *wár*. The town was called after a Rájput named Jigra, who exerted himself in promoting its growth; and who was probably the Rai's representative. A small tomb of Lape Sháh stands in the centre of the city, and every Thursday there is a *mela* or celebration in his honour, in which Hindus and Muhammadans alike take part. About two miles north of Jagraon, on the west of the Sidhwan road, is a mound of some dimensions, called *Solah*, marking the site of an old village in the place of which the *Aqdárs* and other neighbouring villages (Sherpur, &c.) are said to have arisen. It was here that in 1802 A.D. the young Rai Aliás met with his death in the hunting field. Under the Ránis who succeeded him, Ahmed Gújar, the Thánadar or local representative of the family, tried to assert his independence; but was expelled with the assistance of Patiála. It has been related elsewhere how in 1806-8 Máharájá Ranjít Singh stripped the Ránis of their possessions; and the country about Jagraon passed into the hands of the Ahluwália (Kapurthala) Chief, under whom the town became the head-quarters of the *iláqa* or territory, and the mud fort of the Rais was improved. The town came into our possession with the rest of the country in 1846, and the fort was demolished; but there are still remnants of the walls.

Trade and
 manufacture.

The town has a very considerable trade, being situated at the head of the great grain-producing Jangal tract. There is a large colony of the mercantile class, mostly Khattris of the Beri, Lumba, Maria, Jaidke *gots*, who have money-lending dealings with the villagers about; and a great deal of grain finds its way into the bázár in small amounts when the cultivator has not enough to make a journey to Ludhiána worth while. These dribblets collect in the granaries of the trading classes, and are kept till they can be disposed of at a profit. It is estimated that there are now some 400,000 maunds (*pucka*) of grain in the city. The town was once famous for its large granaries; but great losses occurred in consequence of the contents of these rotting, and the grain is now stored in small flat-roofed rooms. The merchants from Ludhiána go and buy up on the spot from the local traders, or the latter bring the grain to Ludhiána. The opening of a new line of railway to Ferozepur with a good station at Jagraon would be likely to divert much of the grain trade from Ludhiána. There is a very large sale of brass and copper dishes, and of cloth in the bázár; and it may be said that the whole country to the distance of 30 or 40 miles south and west is supplied from here, the Jats coming very great

distances to purchase. The chief transactions are in clothes of the better sort, such as are used on marriage and other festive occasions, gold embroidery, &c. The main street (*Chauk*) is generally thronged with buyers, particularly at the marriage season (May-June); and it is no uncommon thing for a well-to-do Jat to throw down Rs. 200 or 300 in hard cash in payment of a purchase of clothes. There are 15 or 20 shops of *Thattárs*, or workers in brass, where the usual dishes are made from sheets of the metal; and there is also an import of ready-made goods of this class from Delhi, Jagádhri, &c., for sale at the ordinary shops. The brass dishes made at Jagraon are famous throughout the country, and fetch high prices. There is also a considerable trade in iron. There are a few workers in ivory, who make bangles, small boxes, &c. The bangles of ivory are necessary in every Hindu marriage, hence the industry. There are also considerable dealings in gold, of which a great deal is now-a-days purchased by the Jats for bangles and other jewellery. The *Ashráfs* of Jagraon have a great reputation for selling the metal pure.

Jagraon is a Municipality of the third class. The average for the last seven years of the octroi income is 9,190, which is spent on the usual objects—Sanitation, Police, Education, &c. The Tahsíl buildings are on the Ferozepur Road, with the encamping ground and *Sarai*, about a mile from the town, but connected with it by a good metalled road. The Police Station is inside the town in the building where the representative of the Ahluwália Chief used to reside. There is a Government Middle School, in which English and Vernacular are taught; and two girls' schools, Hindu and Muhammadan, supported from Municipal Funds. The average attendance for last year was 279 boys and 68 girls. There is also a dispensary maintained from the same source. The tomb of Lape Sháh, the patron saint of the city, is a small erection, standing in one of the chief streets near the centre of the city. The family of Maulavi Rajab Ali have some fine houses, and also a garden with tombs and a mosque in it adjoining them. The Beris, Lumbas, &c., have also some very fine edifices; and Devi Chand Beri has erected for the accommodation of travellers a very fine *sarai* at great expense just outside the principal gate, that towards Ludhiána. The old wall of the city is in good repair, and there are two large *pucka* tanks outside.

The town of Raikot is situated in the Jagraon tahsil. 24 miles, by a direct line to the south-west of Ludhiána; and connected with it by a metalled road, a branch from that to Ferozepur which it leaves just beyond Dákha, about the 13th mile.

The population of Raikot as ascertained at the enumerations of 1868, 1875 and 1881 is shown below:—

Limits of Enumeration.	Year of Census.	Persons.	Males.	Females
Whole town ...	1868	9,165	4,773	4,392
	1881	9,219	4,783	4,436
Municipal limits ...	1868	9,165		
	1875	8,262		
	1881	9,219		

Chapter VI.

Towns and Municipalities.

Jagraon. Trade and manufacture.

Municipality and public institutions: objects of interest.

Raikot.

Chapter VI.
Towns and
Municipalities.
Raikot.

The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. The constitution of the population by religion and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table XX of the Census Report of 1881. Raikot has thus a population of 9,219; but is not a place of very great importance. Of the population about one-half is agricultural, as there is a very large village area (nearly 8,000 acres) attached to it. This land was cultivated from of old, being divided between six villages; but 230 years ago (so says the family history) Rai Ahmad, moving from Talwandi, the former seat of the family, made the place the head-quarters of his territory, and called it Raikot. The scattered villages were collected into one town, and a commercial class assembled. The followers of the Rais would of themselves have been a large addition to the population of any place, as there must always have been a large army maintained. Raikot declined in importance on the overthrow of the Rais; but there is still a certain amount of local trade carried on by residents of the Khatri, Bhábra, &c., tribes. This is principally in grain from the villages to the south, the agriculturists taking in return clothes, brass dishes, salt, &c. The population has remained stationary during the last twelve years; and there are no signs that the place is developing, although the situation should give it the command of the trade from the Jangal, which at present goes straight through to Ludhiána. A good road opened towards Sahna would probably make some difference. The average of octroi receipts for the last seven years is 2,787; and the Municipality is of the third class. The town has, like Jagraon, a Middle School, in which English and Vernacular are taught, and a Police Station, but no regular dispensary. The town is surrounded by a brick wall, ruinous in parts. The principal places of interest are the palaces of Rais, now in the possession of Imám Bakhsh, the adopted son of the last Ráni, who resides here. These buildings are mostly dilapidated.

Máchiwára.

The town of Máchiwára (tahsíl Samrála) lies on the ridge over the Budha, 20 miles to the east of Ludhiána, on the old Rupar Road. A metalled road connects it with Samrála, the tahsíl head-quarters, whence there is also a metalled road to Ludhiána; and although the distance is 26 miles, all traffic goes round this way.

The population as ascertained at the enumerations of 1868, 1875 and 1881 is shown below:—

Limits of Enumeration.	Year of Census.	Persons.	Males.	Females
Whole town ...	{ 1868 1881	6,062 5,967	3,304 3,271	2,758 2,696
Municipal limits ...	{ 1868 1875 1881	6,062 6,224 5,967		

The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. It is, however, by no means improbable that the decrease shown by the figures is real, as the position of the town on the Budha nála or old bed of the Sutlej makes it very unhealthy. The constitution of the population by religion and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table XX of the Census Report of 1881. The town has thus a population of 5,967, of which a large portion is agricultural, the village area being 4,800 acres. Máchiwára may have stood in Hindu times, as a place of the name is mentioned in the Máhabhárat; but it is doubtful if it can claim greater antiquity than that allowed by the account that it was founded 800 years ago under the Ghorian dynasty, like Ludhiána, on the south bank of the Sutlej. The name means "the place of fishers," and is common all along the river. It was under the Ghor dynasty that the Rájputís first settled in this part of the country. The town has a considerable trade in sugar, the *ráb* of the Bét coming into it for manufacture into *khand* or *bura* (a coarse brown sugar). Some account of this trade will be found in the Note on Sugar appended to the Settlement Report, and Mr. Walker estimated the annual value of the exports of sugar and syrup at 1 to 1½ lakhs of rupees. There is a considerable commercial class composed of Khattrís, Baniás, and Suds, engaged in money-lending business with the villagers about, principally with the Muhammadans of the Bét. The sugar trade is mostly carried on by the Khattrís, who combine it with money-lending, taking payment in *ráb*, which they refine into *khand*, &c. The town has a third class Municipality with an average income of Rs. 3,332, of which about 1,000 is levied on the *ráb* brought in for manufacture. The streets are good, well paved, and clean. The public institutions are a Police Station, a Dispensary and a Middle School, where English and Vernacular are taught. As in Ludhiána there is a terrible amount of sickness in the autumn, and for two months most of the inhabitants suffer from fever. Under the Sikhs Máchiwára was the head-quarters of the Sodhis; and they have left a large brick fort, now partly occupied by the Police Station, and a Diwánkhána or Court.

Khanna (tahsíl Samrála) is a small town on the Sindh, Punjab and Delhi Railway, 26 miles south-east of Ludhiána. It has no particular history; but in Sikh times was the seat of one of the petty Chiefs amongst whom the country was divided. The last representative of the race was Máí Daián Kour, on whose death in 1850 the large *jágír* of the family lapsed. The family had a masonry fort, mostly demolished now, but of which portions still remain.

The population as ascertained at the enumerations of 1868, 1875 and 1881 is shown on the next page.

Chapter VI.
Towns and
Municipalities.
Máchiwára.

Khanná.

Chapter VI.

Towns and
Municipalities.
Khanna.

Limits of Enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ...	{ 1868	3,408	1,944	1,464
	{ 1881	3,988	2,234	1,754
Municipal limits ...	{ 1868	3,408		
	{ 1875	3,660		
	{ 1881	3,988		

The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875 ; but it was noted at the time that their accuracy was in many cases doubtful. It would appear from information supplied by the Deputy Commissioner that the Census of 1868 did not include the *sarai* and encamping ground ; while the opening of the Railway and the consequent considerable export of grain that has grown up sufficiently account for the increase.

The constitution of the population by religion and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table XX of the Census Report of 1881. Since the opening of the railway in 1870 Khanna has increased in importance, and there is a rising trade in grain and cotton (exports); salt, iron, &c. (imports). The railway station is a good one, and large consignments of grain come up from the Nábha and other territories which lie to the south. The population increased from 3,408 in 1868 to 3,988 in 1881 (17 per cent.), and it is to be expected that there will be a further development. The average octroi income for seven years was Rs. 4,003, the increase being from 1,468 in 1876 to 4,385 in 1882. There is at present no good road to the south, and most of the trade comes on camels, donkeys, &c. The town is very healthy ; and has good clean bázárs, very wide for a native town. The houses are unpretentious, being mostly of one storey, and many of sun-dried bricks only ; and there is not much actual wealth in the place as yet. A large portion of the population is agricultural. There is a Municipal Committee of the third class, a Police Station outside at the encamping ground, and a Vernacular Middle School. The only objects of interest are the ruins of the old fort and of an Imperial *sarai* built in the time of Aurangzeb.

Bahlolpur.

Bahlolpur is situated on the ridge over the Budha, seven miles east of Máchiwára and 27 from Ludhiána. It was founded in the reign of the Emperor Akbar by Bahlol Khán and Bahádar Khán, Afgháns (Khánzáda), whose descendants still reside and own land in the village area attached to the town ; but have sunk into obscurity. It is now a place of no importance and has all the appearances of decay, though, when there was a brisk trade on the river which it overlooked, the town must have been flourishing.

The population as ascertained at the enumerations of 1868, 1875 and 1881 is as follows :—

Limits of Enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ...	1868	3,369	1,815	1,554
	1881	2,842	1,579	1,263
Municipal limits ...	1868	3,369		
	1875	3,059		
	1881	2,842		

Chapter VI.
Towns and
Municipalities.
Bahlolpur,

The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875 ; but it was noted at the time that their accuracy was in many cases doubtful. It would appear, however, that the decrease is real. The Deputy Commissioner writes : " The steady decay of the place may be attributed to two causes—the first is that during the Sikh rule a number of Patháns of Bahlolpur served in the Rájwars, and brought wealth and plunder to the place ; but since our rule these men have given up service and have been living on their savings. The second cause is that the health of this town is very bad on account of a large jhíl formed by the Budha nála close under its walls. "

The constitution of the population by religion and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table XX of the Census Report of 1881. The average octroi income is Rs. 1,380 ; but the trade, principally in sugar (*khand*), is insignificant. There are a good many resident money-lenders (Khatris and Bánias) who have dealings with the people of the Bét. The town is very unhealthy, like Máchiwára, from its situation. There are a number of old tombs about the town.

Some of the more important of the villages may be mentioned. *Sahna*, (population 4,080), is situated 54 miles south-west of Ludhiána. This is the largest of the Jangal villages, and the original seat of the Malaudh family, who have a very large fort in it. The inhabitants are almost all of the agricultural class, and the houses of sun-dried bricks. There is a bázár with a few ordinary shops. There are seventeen lambardárs or village headmen. A Police Station has lately been established here. *Raipur* (population 3,747) eleven miles south of Ludhiána, is the chief village of the Garewál Jats, who had some local authority at the close of last century. The houses are almost all built of burnt bricks. The population is mostly agricultural ; but there are a good many shops in the bázár. The village has twelve headmen. Of *Tihára* (population 1,143) mention has already been made. It is situated in the north-west extremity of the district on the high bank over the river. The present inhabitants are the ordinary agricultural and miscellaneous population of five or six villages (called Tarafs), who are collected together in a common site like the people of the Agwárs of Jagraon. There is also a fair bázár with a number of shops. The old town has

Large villages.

Chapter VI.**Towns and
Municipalities.**
Large villages.

long since disappeared into the river, and there are no traces of it now. *Sáhnewál* (population 1,988), a station on the Sindh, Punjab and Delhi Railway, nine miles south-east of Ludhiána, may develop into a place of some little importance. A good bázár is springing up. *Malaudh*, the residence of one of the branches of the family of Sardárs, which derives its name from the place, has a small trading community and a good bázár. The population is 2,849. There are some other very large villages, such as *Kaonke* (3,608), *Bassian* (2,962), but the population of these is entirely agricultural.

STATISTICAL TABLES
APPENDED TO THE
GAZETTEER
OF THE
LUDHIANA DISTRICT.

(INDEX ON REVERSE).

"ARTS PRESS," LAMCHE.

STATISTICAL TABLES.

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Table No. II, showing DEVELOPMENT.

1	2	3	4	5	6	7
DETAILS.	1853-54.	1858-59.	1863-64.	1868-69.	1873-74.	1878-79.
Population ..	..	..	..	585,547	..	618,835
Cultivated acres ..	..	..	..	729,890	715,482	716,184
Irrigated acres ..	..	..	..	23,143	119,322	419,972
Ditto (from Government works) ..	..	..	..	..	..	..
Assessed Land Revenue, rupees ..	..	..	..	9,59,383	9,56,127	7,90,000
Revenue from land, rupees ..	..	..	..	7,65,523	7,87,876	7,83,182
Gross revenue, rupees ..	..	..	..	8,76,558	9,73,413	10,49,704
Number of kine ..	..	..	..	266,097	267,331	270,238
„ sheep and goats ..	..	..	..	60,053	59,198	67,505
„ camels ..	..	..	..	1,952	1,810	1,811
Miles of metalled roads ..	..	..	..	240	38	127
„ unmetalled roads ..	..	..	..		154	217
„ Railways ..	..	..	..	38	31	36
Police staff ..	..	..	441	565	561	553
Prisoners convicted ..	722	1,117	1,043	1,311	2,529	3,280
Civil suits,—number ..	3,156	2,411	3,889	6,096	8,413	8,891
„ —value in rupees ..	2,80,066	3,71,091	1,42,111	3,13,969	4,76,942	5,56,408
Municipalities,—number ..	..	..	..	..	4	6
„ —income in rupees ..	..	..	..	27,329	38,843	67,357
Dispensaries,—number of ..	..	..	..	2	2	3
„ —patients ..	..	..	..	9,683	24,527	45,092
Schools,—number of ..	..	..	88	93	69	79
„ —scholars ..	..	..	2,617	3,186	2,972	3,961

NOTE.—These figures are taken from Tables Nos. I, III, VIII, XI, XV, XXI, XLI, XLV, L, LIX, and LXI of the Administration Report.

Table No. III, showing RAINFALL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Rain-gauge station.	ANNUAL RAINFALL IN TENTHS OF AN INCH.																	
	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	Aver. yrs.
Ludhiana ..	230	212	228	324	220	169	452	286	151	376	193	332	310	173	414	283	239	270
Samrala ..	248	412	223	295	321	237	406	275	132	260	241	202	341	244	415	279	185	273
Jagraon ..	151	208	173	175	171	160	456	223	143	322	240	115	278	185	239	174	124	206

NOTE.—These figures are taken from the weekly rainfall statements published in the Punjab Gazette.

Table No. IIIA, showing RAINFALL at head-quarters.

1	2	3	1	2	3
MONTHS.	ANNUAL AVERAGES.		MONTHS.	ANNUAL AVERAGES.	
	No. of rainy days in each month—1867 to 1876.	Rainfall in tenths of an inch in each month—1867 to 1881.		No. of rainy days in each month—1867 to 1876.	Rainfall in tenths of an inch in each month—1867 to 1881.
January	2	8	September	4	44
February	3	12	October	1	4
March	3	16	November	1	1
April	1	7	December	1	7
May	3	9	1st October to 1st January	1	11
June	4	22	1st January to 1st April	6	37
July	8	90	1st April to 1st October	26	224
August	7	52	Whole year	33	273

NOTE.—These figures are taken from Table No. XXIV of the Revenue Report, and from page 34 of the Famine Report.

Table No. IIIB, showing RAINFALL at Tahsil Stations.

1	2	3	4	5
TAHSIL STATIONS.	AVERAGE FALL IN TENTHS OF AN INCH, FROM 1873-74 TO 1877-78.			
	1st October to 1st January.	1st January to 1st April.	1st April to 1st October.	Whole year.
Jagraon	3	26	230	268
Banra	5	24	216	255

NOTE.—These figures are taken from pages 36, 37 of the Famine Report.

Table No. IV, showing TEMPERATURE.

1	2	3	4	5	6	7	8	9	10
YEAR.	TEMPERATURE IN SHADE (IN DEGREES FAHRENHEIT).								
	May.			July.			December.		
	Maximum.	Mean.	Minimum.	Maximum.	Mean.	Minimum.	Maximum.	Mean.	Minimum.
1868-69	..	..	..	..	..	..	85.0	30.0	57.19
1869-70	..	..	..	..	..	..	..	..	..
1870-71	115.0	52.0	85.22	116.0	60.0	84.3	77.0	21.0	50.6
1871-72	115.0	58.0	87.71	105.0	71.0	87.45	82.0	34.0	57.27
1872-73	117.0	62.0	87.59	108.0	72.0	85.67	79.0	31.0	54.85
1873-74	117.0	57.0	83.61	110.0	74.0	87.24	76.0	30.0	53.27
1874-75	115.0	56.0	86.79	108.0	72.0	86.10	80.0	28.0	54.14
1875-76	119.0	64.5	91.29	114.9	76.0	91.82	80.0	40.0	59.39
1876-77	113.0	89.0	63.0	116.0	88.5	73.5	75.8	56.2	35.3
1877-78	110.8	84.5	64.3	108.8	92.1	73.2	73.7	56.3	39.6
1878-79	104.8	83.8	62.2	109.8	89.3	70.3	79.7	56.2	32.0
1879-80	113.8	90.6	66.3	104.8	91.0	73.3	75.7	54.7	24.0
1880-81	110.8	68.3	88.6	104.8	67.3	85.1	76.7	38.5	55.6
1881-82	118.3	91.8	62.2	117.8	95.4	73.3	80.7	59.1	38.0

Table No. V, showing the DISTRIBUTION of P OPULATION.

1	2	3	3	5
	District.	Tahsil Ludhiana.	Tahsil Jagraon.	Tahsil Samrala.
Total square miles	1,375	678	409	239
Cultivated square miles	1,119	535	349	235
Culturable square miles	144	65	55	24
Square miles under crops (average 1877 to 1881)	1,187	592	299	236
Total population	618,823	307,559	158,767	152,500
Urban population	83,052	44,163	26,092	12,797
Rural population	535,788	263,396	132,675	139,713
Total population per square mile	450	453	388	550
Rural population per square mile	390	388	324	486
Towns & villages.	Over 10,000 souls	2	1	1
	5,000 to 10,000	2	1	1
	3,000 to 5,000	4	1	3
	2,000 to 3,000	31	13	13
	1,000 to 2,000	119	56	37
	500 to 1,000	243	124	48
	Under 500	458	238	71
Total	859	433	169	257
Occupied houses { Towns	13,697	7,041	3,932	2,724
{ Villages	90,534	44,009	20,890	25,638
Unoccupied houses { Towns	6,402	2,740	2,137	1,525
{ Villages	24,161	8,918	4,050	11,194
Resident families { Towns	21,549	11,761	6,329	3,750
{ Villages	119,870	52,465	29,426	37,970

NOTE.—These figures are taken from Tables Nos. I and XVIII of the Census of 1881, except the cultivated, culturable and crop areas, which are taken from Tables Nos. I and XLIV of the Administration Report.

Table No. VI, showing MIGRATION.

1	2	3	4	5	6	7	8
DISTRICTS.	Immigrants.	Emigrants.	MALES PER 1,000 OF BOTH SEXES.		DISTRIBUTION OF IMMIGRANTS BY TAHSILS.		
			Immigrants.	Emigrants.	Ludhiana.	Jagraon.	Samrala.
Umballa	5,604	4,923	361	420	1,310	308	1,986
Jullundur	12,518	11,982	440	366	7,418	3,092	2,006
Hoshiarpur	6,051	2,276	515	236	3,152	979	1,923
Amritsar	1,148	1,764	548	511	786	254	198
Lahore	525	1,533	558	606	340	129	56
Ferozepore	10,265	14,292	396	384	3,239	6,719	257
Native States	48,800	43,820	274	298	25,132	8,578	15,090
N. W. P. and Oudh	1,917	..	610	..	1,083	266	568

NOTE.—These figures are taken from Table No. XI of the Census Report of 1881.

Table No. VII, showing RELIGION and SEX.

1	2	3	4	5	6	7	8
	DISTRICT.			TAHSILS.			Villages.
	Persons.	Males.	Females.	Ludhiana.	Jagraon.	Samrala.	
Persons	618,835	..	..	307,559	158,767	152,509	535,783
Males	..	339,598	..	169,139	85,621	84,838	294,230
Females	..	..	279,237	138,420	73,146	67,671	241,553
Hindus	275,240	153,572	121,668	130,478	55,608	89,154	247,792
Sikhs	127,143	70,805	56,338	63,633	46,617	16,893	123,390
Jains	2,165	1,179	986	1,178	749	238	697
Buddhists	..	..	..	..	..	..	..
Zoroastrians	..	..	..	..	..	..	..
Musalmans	213,954	113,878	100,076	1,11,942	55,739	46,223	163,896
Christians	322	159	163	317	4	1	8
Others and unspecified	11	5	6	11	..	..	..
European & Eurasian Christians	143	68	75	138	4	1	..
Sunnis	212,054	112,892	99,162	110,402	55,429	46,223	162,583
Shiaks	1,868	972	896	1,521	347	..	1,290
Wahabis	19	7	12	19	..	..	16

NOTE.—These figures are taken from Tables Nos. III, IIIA, IIIB of the Census of 1881.

Table No. VIII, showing LANGUAGES.

1	2	3	4	5
Language.	District.	DISTRIBUTION BY TAHSILS.		
		Ludhiana.	Jagraon.	Samrala.
Hindustani	4,731	3,551	433	747
Bagri	182	103	48	31
Panjabi	609,344	299,428	158,233	151,683
Pashtu	118	93	6	19
Fahari	39	27	..	12
Kashmiri	3,581	3,531	47	3
Persian	672	670	..	2
English	128	127	..	1

NOTE.—These figures are taken from Table No. IX of the Census Report for 1881.

Table No. IX, showing MAJOR CASTES and TRIBES.

1	2	3	4	5	6	7	8	9	10
Serial No. in Census Table No. VIIIA.	Caste or tribe.	TOTAL NUMBERS.			MALES, BY RELIGION.				Proportion per mille of population.
		Persons.	Males.	Females.	Hindu.	Sikh.	Jain.	Musalman	
	Total population ..	618,835	330,592	279,287	153,572	70,805	1,179	115,878	1,000
6	Pathan ..	3,629	1,906	1,723	..	..	..	1,906	6
1	Jat ..	222,665	124,776	97,889	54,070	57,629	..	13,077	65
2	Rajput ..	30,957	16,788	14,169	853	23	..	15,912	50
12	Awan ..	3,312	1,271	2,041	..	..	..	1,271	0
8	Gujar ..	30,759	16,608	14,151	395	29	..	16,184	50
7	Arain ..	27,229	14,727	12,502	..	..	..	14,727	44
17	Shekh ..	6,129	3,307	2,822	..	..	..	3,307	10
3	Brahman ..	25,121	13,924	11,197	13,705	219	..	..	41
24	Saiyad ..	3,665	1,956	1,699	..	..	..	1,956	6
35	Faqirs ..	8,437	4,339	3,598	346	123	1	4,369	14
48	Pharai ..	5,592	2,903	2,689	8	..	..	2,895	9
21	Nai ..	11,065	5,844	5,221	4,024	475	..	1,345	18
25	Mirasi ..	5,489	2,853	2,636	6	..	..	2,847	9
14	Banya ..	8,722	4,870	3,852	4,304	55	511	..	14
16	Khatri ..	15,944	9,123	6,321	8,892	229	1	..	26
4	Chuhra ..	18,525	9,825	8,700	8,540	1,285	..	..	29
5	Chamar ..	59,655	32,404	27,251	28,109	3,965	..	..	96
19	Mochi ..	8,171	4,388	3,783	37	..	..	310	12
9	Julaha ..	14,728	7,881	6,847	85	14	..	4,351	24
15	Jhinwar ..	15,834	8,305	7,529	4,952	362	..	7,792	26
22	Lohar ..	8,520	4,683	3,837	2,718	1,277	..	2,991	16
11	Tarkhsn ..	18,809	10,470	8,339	7,252	2,675	..	688	30
13	Kumhar ..	8,226	4,273	3,953	1,524	70	..	543	12
36	Chhimba ..	7,158	3,779	3,379	2,788	90	..	2,679	13
23	Teli ..	10,883	5,883	5,000	36	..	..	81	18
30	Sunar ..	5,962	3,186	2,776	2,883	136	..	5,847	16
								167	19

NOTE.—These figures are taken from Table No. VIIIA of the Census of 1881.

Table No. IXA, showing MINOR CASTES and TRIBES.

1	2	3	4	5
Serial No. in Census Table No. VIIIA.	Caste or tribe.	Persons.	Males.	Females.
26	Kashmiri ..	2,492	1,307	1,185
32	Dhobi ..	1,167	635	532
33	Kamboh ..	951	527	424
37	Mughal ..	677	371	306
38	Qassab ..	1,621	841	780
40	Jogi ..	1,022	583	439
46	Dogar ..	2,214	1,199	1,015
52	Labana ..	923	487	436
53	Bairagi ..	1,889	1,478	411
56	Kalol ..	1,955	950	1,005
63	Madari ..	562	290	272
67	Lilari ..	585	268	317
72	Sansi ..	1,330	744	586
75	Sud ..	2,075	1,112	963
82	Rawat ..	1,807	971	836
84	Udasi ..	2,366	1,540	826
88	Bhabra ..	1,325	767	558
89	Bazigar ..	936	562	373
94	Banjara ..	942	478	464

NOTE.—These figures are taken from Table No. VIIIA of the Census of 1881.

Table No. X, showing CIVIL CONDITION.

1	2	3	4	5	6	7	8
DETAILS.		SINGLE.		MARRIED.		WIDOWED.	
		Males.	Females.	Males.	Females.	Males.	Females.
Actual figures for religions.	All religions	169,358	89,512	147,237	149,756	23,003	39,909
	Hindus	78,659	38,340	64,630	65,958	10,283	17,370
	Sikhs	31,442	17,202	31,694	31,101	4,669	8,035
	Jains	567	358	496	482	116	146
	Buddhists	..	..	..	..	..	..
	Musalmans	55,582	33,510	50,366	52,159	7,930	14,407
	Christians	105	99	49	54	5	10
Distribution of every 10,000 souls of each age.	All ages	4,987	3,206	4,336	5,363	677	1,421
	0-10	9,862	9,657	135	337	3	6
	10-15	8,315	5,693	1,654	4,248	31	58
	15-20	5,668	1,250	4,235	8,557	97	193
	20-25	3,520	247	6,269	9,359	271	894
	25-30	2,114	87	7,453	9,219	433	694
	30-40	1,489	75	7,737	8,424	774	1,500
	40-50	1,180	58	7,445	6,642	1,375	3,300
	50-60	1,060	59	6,715	4,683	2,225	5,258
	Over 60	943	46	5,372	2,448	3,685	7,506

NOTE.—These figures are taken from Table No. VI of the Census Report.

Table No. XI, showing BIRTHS and DEATHS.

1	2	3	4	5	6	7	8	9	10
YEARS.	TOTAL BIRTHS REGISTERED.			TOTAL DEATHS REGISTERED.			TOTAL DEATHS FROM		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Cholera.	Small-pox.	Fever.
1877	..	..	..	6,972	6,034	13,006	1	425	7,124
1878	..	..	..	14,082	12,100	26,182	..	696	18,546
1879	..	..	..	11,316	8,452	19,768	255	2,444	12,931
1880	10,979	9,245	20,224	8,326	7,077	15,403	3	44	70,389
1881	12,901	11,117	24,018	9,471	8,244	17,715	21	61	11,739

NOTE.—These figures are taken from Tables Nos. I, II, VII, VIII, and IX of the Sanitary Report.

Table No. XIA, showing MONTHLY DEATHS from ALL CAUSES.

1	2	3	4	5	6	7
MONTH.	1877.	1878.	1879.	1880.	1881.	Total.
January	939	1,062	1,777	1,240	1,360	6,378
February	788	898	1,427	803	1,203	5,119
March	853	926	1,286	645	954	4,864
April	761	903	1,213	969	975	4,911
May	1,053	1,599	1,819	824	1,106	6,401
June	1,329	1,450	1,473	1,074	990	6,316
July	913	1,157	1,060	890	978	5,028
August	1,089	1,457	1,350	1,253	1,223	6,402
September	1,036	2,596	2,008	2,227	2,438	10,305
October	1,448	5,422	3,118	2,058	2,947	14,993
November	1,682	6,131	1,970	1,734	2,107	13,624
December	1,115	2,461	1,237	1,486	1,434	7,738
Total	13,006	26,182	19,768	15,403	17,715	92,074

NOTE.—These figures are taken from Table No. III of the Sanitary Report.

Table No. XIB, showing MONTHLY DEATH from FEVER.

1	2	3	4	5	6	7
MONTH.	1877.	1878.	1879.	1880.	1881.	Total.
January	502	507	1,253	879	778	3,919
February	379	401	843	487	637	2,802
March	387	432	642	500	525	2,486
April	339	512	531	619	582	2,603
May	518	808	799	540	707	3,391
June	805	843	750	778	659	3,820
July	532	639	592	569	580	2,902
August	608	808	832	791	680	3,779
September	600	1,871	1,581	1,599	1,743	7,383
October	843	4,550	2,647	1,463	2,290	11,793
November	950	5,313	1,616	1,194	1,563	10,685
December	557	1,877	921	931	945	5,231
TOTAL	7,124	18,546	12,981	10,889	11,739	60,779

NOTE.—These figures are taken from Table No. IX of the Sanitary Report.

Table No. XII, showing INFIRMITIES.

1	2	3	4	5	6	7	8	9
	INSANE.		BLIND.		DEAF AND DUMB.		LEPERS.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
All religions { Total	170	85	2,431	2,190	459	210	141	26
{ Villages	137	75	2,165	1,862	412	150	125	24
Hindus	91	37	1,344	1,179	243	94	59	14
Sikhs	14	1	373	324	55	22	16	4
Musalmans	65	47	684	675	171	92	66	8

NOTE.—These figures are taken from Tables Nos. XIV to XVII of the Census of 1881.

Table No. XIII, showing EDUCATION.

1	2	3	4	5	1	2	3	4	5
	MALES.		FEMALES.			MALES.		FEMALES.	
	Under in-struction.	Can read and write.	Under in-struction.	Can read and write.		Under in-struction.	Can read and write.	Under in-struction.	Can read and write.
All religions { Total	4,922	16,406	291	251	Musalmans	1,468	2,350	136	102
{ Villages	2,381	11,328	99	122	Christians	60	87	68	55
Hindus	2,679	11,409	60	64	Tahsil Ludhiana	2,777	8,678	211	191
Sikhs	653	2,191	25	37	" Jagraon	1,148	3,672	56	42
Jains	102	356	1	..	" Samrala	1,037	4,096	24	23
Buddhists	..	..	..	..					

NOTE.—These figures are taken from Table No. XIII of the Census of 1881.

Table No. XIV, showing detail of SURVEYED and ASSESSED AREA.

1	2	3	4	5	6	7	8	9	10	11	12
	CULTIVATED.				UNCULTIVATED.						
	Irrigated.		Unirrigated.	Total cultivated.	Grazing lands.	Culturable.	Unculturable.	Total uncultivated.	Total area assessed.	Gross assessment.	Unappropriated culturable waste, the property of Govt.
	By Government works.	By private individuals.									
1869-60	..	23,148	706,742	729,890	22,465	62,523	54,877	139,897	860,787	959,333	..
1873-74	..	119,322	506,160	715,482	18,376	55,587	66,316	100,279	875,761	956,127	..
1878-79	..	419,972	296,212	716,184	36,021	54,068	71,963	164,042	880,226	790,000	..
Tahsil details for 1878-79—											
Tahsil Ludhiana	..	348,770	153,529	502,299	12,099	31,455	35,660	88,204	590,503	350,279	..
" Jagraon	..	18,992	44,803	63,795	19,149	4,017	20,561	44,723	103,523	226,095	..
" Samrala	..	52,210	97,890	150,090	6,782	8,596	13,782	31,110	181,200	219,626	..

NOTE.—These figures are taken from Table No. VIII of the Administration Report, except the last column, which is taken from Table No. I of the same Report.

Table No. XV, showing TENURES held direct from Government as they stood in 1878-79.

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NATURE OF TENURE.	1															
	2															
	3															
A. -- ESTATES NOT BEING VILLAGE COMMUNITIES, AND PAYING IN COMMON (ZAMINDARI).	WHOLE DISTRICT.				TAHSIL LUDHIANA.				TAHSIL JAGRAON.				TAHSIL SAMNALA.			
	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.
IV. -- (Paying 1,000 rupees revenue and) Held by individuals under the law of primogeniture.	19	19	140	13,003	8	8	60	5,802	6	6	45	4,585	5	5	35	2,616
PROPRIETARY CULTIVATING VILLAGE COMMUNITIES.																
R. -- Zamindari. Paying the revenue and holding the land in common	7	7	48	2,783	3	3	20	1,382	2	2	15	855	2	2	13	545
E. -- Mixed or imperfect. (In which the lands are held partly in severalty and partly in common, the measure of right in common land being the amount of the share or the extent of land held in severalty.)	870	870	70,192	802,528	396	396	24,596	392,012	282	282	20,490	231,727	192	192	12,097	187,880
TOTAL.	896	896	70,380	878,404	407	407	28,076	400,136	290	290	39,559	287,167	199	199	12,145	191,051

NOTE. -- These figures are taken from Table No. XXXIII of the Revenue Report for 1878-79.

Table No. XVI, showing TENURES not held direct from Government as they stood in 1878-79.

1	2		3		4		5		6		7		8		9	
	District Ludhiana.		District Ludhiana.		Tahsil Ludhiana.		Tahsil Jagraon.		Tahsil Samrala.							
	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.
A.—TENANTS WITH RIGHT OF OCCUPANCY.																
	(a) Paying the amount of Government revenue only to the proprietors.															
	(b) Paying such amount, plus a cash Malikana															
	(c) Paying at stated cash rates per acre															
I. Paying rent in cash.	3,784	20,901	1,978	12,885	1,000	4,921	802	9,095								
(a) Paying lump sums (cash) for their holdings	509	3,486	205	1,935	185	982	119	809								
(b) Paying a stated share of the produce in kind.	63	197	28	50	20	46	15	32								
(c) Paying a stated share of the produce plus a cash contribution.	4,556	24,924	2,211	14,639	1,200	5,949	936	8,966								
Total paying rent in cash	39	27	15	10	13	9	11	8								
(a) Paying a stated share of the produce in kind.	353	3,075	169	1,612	100	1,283	88	778								
(b) Paying a stated share of the produce plus a cash contribution.	233	471	85	195	69	112	49	64								
(c) Share of produce and more	88	986	39	395	30	312	19	278								
Total paying rent in kind	683	5,059	304	2,213	212	1,718	167	1,128								
GRAND TOTAL of Tenants with rights of occupancy	5,039	29,583	2,515	16,852	1,421	7,667	1,103	5,094								
C.—TENANTS-AT-WILL.																
I. Paying in cash	18,429	99,755	7,536	39,505	5,589	35,185	3,305	25,069								
(a) Paying in cash	2,041	13,937	915	5,812	685	3,905	444	4,220								
(b) Paying in cash less than produce	6,993	21,210	2,605	9,555	2,372	6,982	2,016	5,418								
GRAND TOTAL of Tenants at will																
D.—PARTIES HOLDING AND CULTIVATING SERVICE-GRANTS FROM PROPRIETORS FREE OF ALL REVENUE.																
I. Sontalap or Dharmarth	1,238	9,067	512	1,482	419	992	207	893								
II. Conditional on service	39	43	14	17	12	15	13	11								
GRAND TOTAL OF TENURES	31,772	187,645	14,096	73,223	10,498	54,040	7,178	40,964								

NOTE.—These figures are taken from Table No. XXXIV of the Revenue Report.

Table No. XIX, showing LAND ACQUIRED by GOVERNMENT.

Purpose for which acquired.	Acres acquired.	Compensation paid, in rupees.	Reduction of revenue, in rupees.
Roads	2,875	10,866	1,687
Canals	3,915	145,201	3,339
State Railways	..	..	..
Guaranteed Railways	999	18,186	1,465
Miscellaneous	283	5,544	380
Total	8,072	179,797	7,571

NOTE.—These figures are taken from Table No. XI of the Revenue Report.

Table No. XX, showing ACRES UNDER CROPS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
YEARS.	Total.	Rice.	Wheat.	Jawar.	Bajra.	Makai.	Jau.	Gram.	Moth.	Poppy.	Tobacco.	Cotton.	Indigo.	Sugarcane.	Vegetables.
1873-74..	703,604	2,960	199,606	85,645	6,569	54,167	48,803	133,547	57,682	656	1,903	11,568	2,617	10,370	48,263
1874-75..	696,484	3,283	202,833	86,768	6,359	56,630	69,899	120,972	60,406	140	1,791	13,316	2,464	9,769	11,495
1875-76..	758,426	3,603	202,838	115,326	6,163	58,544	70,676	140,488	59,141	68	1,791	13,426	2,510	10,337	25,818
1876-77..	748,535	3,96	197,012	136,455	5,644	62,502	106,202	171,984	49,853	69	1,550	11,488	2,647	14,400	7,569
1877-78..	748,435	3,65	191,898	136,237	5,975	62,647	74,838	154,846	49,622	34	1,409	10,307	2,105	14,228	6,341
1878-79..	750,579	6,145	213,954	141,805	5,150	55,249	53,401	158,268	47,556	38	1,898	11,366	2,018	14,458	3,680
1879-80..	750,379	6,145	213,754	141,807	5,150	55,249	53,401	158,268	47,556	38	1,898	11,366	2,018	14,458	3,680
1880-81..	1,566,031	11,962	203,158	93,563	15,651	269,242	143,591	409,648	115,225	3	3,982	29,741	1,272	25,629	23,210
1881-82..	778,907	4,389	170,815	77,829	11,680	71,410	40,965	163,447	78,097	12	2,297	18,032	514	11,673	5,193

NAME OF TAHSIL.

TAHSIL AVERAGES FOR THE FIVE YEARS, FROM 1877-78 TO 1881-82.

Ludhiana	379,164	2,629	89,378	51,229	3,860	31,379	33,760	74,467	23,805	13	1,648	6,681	693	6,544	8,974
Jagraon	189,593	1,315	44,239	25,116	1,931	14,691	10,885	37,234	11,903	7	825	3,341	945	3,273	1,988
Samrala	191,582	1,314	41,689	25,515	1,830	14,689	16,865	37,233	11,902	6	824	3,341	946	3,272	1,966
TOTAL ..	760,329	5,259	178,356	101,860	7,521	60,759	67,539	148,935	47,611	25	3,297	13,363	1,385	13,069	7,948

NOTE.—These figures are taken from Table No. XLIV of the Administration Report.

Table No. XXI, showing RENT RATES and AVERAGE YIELD.

1		2			3
Nature of crop.		Rent per acre of land suited for the various crops, as it stood in 1881-82.			Average produce per acre as estimated in 1881-82.
		Rs.	A.	P.	lbs.
Rice	Maximum	10	0	0	500
	Minimum	6	0	0	
Indigo	Maximum	9	0	0	30
	Minimum	6	0	0	
Cotton	Maximum	8	0	0	400
	Minimum	5	0	0	
Sugar	Maximum	14	0	0	600
	Minimum	10	0	0	
Optum	Maximum	12	0	0	20
	Minimum	10	0	0	
Tobacco	Maximum	7	0	0	20
	Minimum	6	0	0	
Wheat	Irrigated	12	0	0	900
	Minimum	9	0	0	
	Unirrigated	6	0	0	
Inferior grains	Maximum	4	0	0	900
	Minimum	9	0	0	
	Unirrigated	6	0	0	
Oil seeds	Maximum	6	0	0	350
	Minimum	4	0	0	
	Unirrigated	9	0	0	
Fibres	Maximum	5	0	0	350
	Minimum	4	0	0	
	Unirrigated	3	0	0	
Gram					
Barley					
Bajra					
Jawar					
Vegetables					
Tea					

NOTE.—These figures are taken from Table No. XLVI of the Administration Report.

Table No. XXII, showing NUMBER of STOCK.

1	2	3	4	5	6	7
KIND OF STOCK.	WHOLE DISTRICT FOR THE YEARS			TAHSILS FOR THE YEAR 1878-79.		
	1868-69.	1873-74.	1878-79.	Ludhiana.	Jagraon.	Samrala.
Cows and bullocks	266,087	267,331	270,238	135,119	55,812	79,307
Horses	1,983	1,339	1,157	595	192	370
Ponies	1,717	1,182	648	392	142	114
Donkeys	6,449	8,280	7,430	3,701	1,736	1,993
Sheep and goats	60,053	59,108	67,505	35,520	15,792	16,193
Pigs	290	..	221	221	..	..
Camels	1,052	1,810	1,511	912	519	380
Carts	10,754	11,393	11,956	5,395	3,180	3,381
Ploughs	62,583	68,559	65,214	32,850	9,920	22,444
Boats	225	75	62	42	10	10

NOTE.—These figures are taken from Table No. XLV of the Administration Report.

Table No. XXIII, showing OCCUPATIONS of MALES.

1	2	3	4	5	1	2	3	4	5
Number.	Nature of occupations.	Males above 15 years of age.			Number.	Nature of occupations.	Males above 15 years of age.		
		Towns.	Villages.	Total.			Towns.	Villages.	Total.
1	Total population ..	30,490	181,701	213,105	17	Agricultural labourers ..	153	1,274	1,427
2	Occupation specified ..	27,966	174,403	202,371	18	Pastoral ..	101	1,420	1,521
3	Agricultural, whether simple or combined. ..	6,326	112,453	118,785	19	Cooks and other servants ..	1,939	682	2,611
4	Civil Administration ..	1,337	2,290	3,626	20	Water-carriers ..	562	3,161	3,723
5	Army ..	89	153	242	21	Scavengers and scavengers ..	284	1,473	1,757
6	Religion ..	330	3,211	3,571	22	Workers in reed, cane, leaves, straw, &c. ..	294	400	694
7	Barbers ..	495	2,208	2,613	23	Workers in leather ..	97	129	226
8	Other professions ..	621	858	1,479	24	Boot-makers ..	633	3,351	4,594
9	Money-lenders, general traders, pedlars, &c. ..	923	825	1,748	25	Workers in wool and pashmi ..	1,067	131	1,198
10	Dealers in grain and flour ..	1,630	4,018	5,708	26	" " silk ..	21	4	25
11	Corn-grinders, parchers, &c. ..	262	206	468	27	" " cotton ..	1,879	8,680	10,559
12	Confectioners, green-grocers, &c. ..	629	141	770	28	" " wool ..	615	3,838	4,443
13	Carriers and boatmen ..	652	681	1,233	29	Potters ..	270	1,597	1,867
14	Landowners ..	4,634	88,937	91,661	30	Workers and dealers in gold and silver. ..	318	1,237	1,555
15	Tenants ..	947	12,437	13,384	31	Workers in iron ..	156	1,642	1,798
16	Joint-cultivators ..	326	9,002	9,418	32	General labourers ..	2,185	11,239	1,324
					33	Beggars, fakirs, and the like ..	1,557	7,161	8,718

NOTE.—These figures are taken from Table No. XII A of the Census Report of 1881.

Table No. XXIV, showing MANUFACTURES.

1	2	3	4	5	6	7	8	9	10	11
	Silk.	Cotton.	Wool.	Other fabrics.	Paper	Wood.	Iron.	Brass and copper.	Buildings.	Dyeing and manufacturing of dyes.
Number of mills and large factories					1					
Number of private looms or small works.	3	4,422	1,238	163	83	2,420	1,440	42	362	558
Number of workmen (Male in large works. } Female ..										
Number of workmen in small works or independent artisans.	8	7,892	1,274	307		3,840	2,148	99	454	905
Value of plant in large works					4,000					
Estimated annual out-turn of all works in rupees.	1,397	9,93,916	1,33,325	17,340	6,509	8,94,036	6,62,763	24,273	87,353	1,79,609

	12	13	14	15	16	17	18	19
	Leather.	Pottery, common and glazed.	Oil-pressing and refining.	Pashmina and Shawls.	Carpets.	Gold, silver, and jewellery.	Other manufactures.	Total.
Number of mills and large factories								1
Number of private looms or small works.	3,094	1,245	2,112	900	47	873	680	19,615
Number of workmen (Male in large works. } Female ..								83
Number of workmen in small works or independent artisans.	5,209	1,996	2,926	930	65	1,222	1,044	30,375
Value of plant in large works								4,000
Estimated annual out-turn of all works in rupees.	9,28,840	86,184	12,86,811	1,86,200	6,535	11,36,047	91,808	67,28,966

NOTE.—These figures are taken from the Report on Internal Trade and Manufactures for 1891-92.

Table No. XXVI, showing RETAIL PRICES.

Year.	NUMBER OF SEERS AND CHITANKS PER RUPEE.																													
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16															
	Wheat.		Barley.		Gram.		Indian corn.		Jawar.		Bajra.		Rice (fine).		Urd dal.		Potatoes.		Cotton. (cleaned).		Sugar (refined).		Ghi (cow's).		Firewood.		Tobacco.		Salt (Lahori).	
	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.
1861-62 ..	14	15	17	1	15	1	17	5	16	13	1	7	7	40	12	..	..	3	11	3	1	2	..	128	11	22	9	10	4	
1862-63 ..	22	10	31	2	20	10	30	6	31	14	28	4	9	1	22	8	..	..	3	10	2	15	1	13	15	16	7	8	13	
1863-64 ..	19	5	47	4	41	11	47	7	12	13	43	2	8	6	22	1	..	..	2	2	2	9	1	15	149	5	11	3	8	1
1864-65 ..	31	5	49	12	40	15	46	14	17	1	28	15	9	11	20	8	..	..	1	7	3	1	2	..	139	15	20	1	6	6
1865-66 ..	21	1	36	13	48	7	32	13	31	6	19	6	7	3	18	9	..	..	2	1	2	14	1	12	111	15	29	14	8	6
1866-67 ..	22	9	34	11	36	15	31	1	26	14	22	6	6	13	19	1	..	..	2	5	3	7	1	7	120	6	16	11	7	14
1867-68 ..	23	6	31	9	27	12	31	5	28	14	25	2	7	12	15	10	..	..	3	5	3	4	1	7	124	6	10	11	8	5
1868-69 ..	17	1	29	9	23	5	23	1	21	3	20	5	7	1	12	6	..	..	2	7	3	13	1	14	129	..	13	6	8	1
1869-70 ..	9	5	13	2	11	15	13	7	12	8	11	9	5	13	8	7	..	..	2	4	3	7	1	5	106	9	15	6	7	0
1870-71 ..	16	1	20	11	16	6	22	1	22	7	17	14	5	13	13	7	..	..	1	11	2	5	1	3	91	6	13	2	8	1
1871-72 ..	19	8	26	8	25	..	25	8	21	..	21	..	8	..	17	..	..	..	3	4	2	12	1	13	90	..	14	..	9	3
1872-73 ..	23	..	29	8	27	8	32	..	30	..	29	..	9	..	29	..	..	..	3	..	2	12	1	11	90	..	14	..	9	8
1873-74 ..	24	..	35	..	34	..	31	..	34	..	29	8	8	..	23	..	..	..	3	..	3	..	7	10	120	..	20	..	9	8
1874-75 ..	27	..	41	8	40	8	42	..	37	..	30	..	8	..	25	..	..	..	3	8	3	3	1	8	90	..	23	..	9	12
1875-76 ..	21	..	35	..	33	8	29	..	31	..	28	..	8	..	22	..	..	..	3	4	3	4	1	14	100	..	12	..	9	12
1876-77 ..	27	8	47	..	40	..	40	..	41	..	34	..	8	..	20	..	..	..	3	8	3	4	1	..	100	..	16	..	9	12
1877-78 ..	15	12	21	8	19	..	22	..	19	8	13	..	6	..	11	..	..	..	3	..	3	..	1	8	80	..	13	..	9	8
1878-79 ..	15	8	23	..	16	8	17	8	20	..	17	..	5	..	11	..	..	..	3	..	2	4	1	6	80	..	16	..	9	8
1879-80 ..	14	..	25	..	19	..	20	..	19	..	17	..	5	..	14	..	..	..	3	8	2	8	1	8	100	..	15	..	10	8
1880-81 ..	17	..	27	..	24	..	27	..	27	..	24	..	5	..	16	..	..	..	3	..	2	6	1	8	100	..	14	8	12	..
1881-82 ..	22	..	37	..	31	..	33	..	34	..	23	..	5	..	13	..	..	..	3	4	3	..	1	8	100	..	12	..	11	8

NOTE.—The figures for the first ten years are taken from a statement published by Government (Punjab Government No. 209 S. of 19th August 1872), and represent the average prices for the 12 months of each year. The figures for the last ten years are taken from Table No. XLVII of the Administration Report, and represent prices as they stood on the 1st January of each year.

Table No. XXVII, showing PRICE of LABOUR.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	WAGES OF LABOUR PER DAY.				CARTS PER DAY.		CAMELS PER DAY.		DONKEYS PER SCORE PER DAY.		BOATS PER DAY.	
	Skilled.		Unskilled.		Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
	Highest	Lowest	Highest	Lowest								
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.				
1868-69 ..	0 6 0	0 2 6	0 3 0	0 2 6	1 12 0	1 12 0	0 8 0	0 7 0	3 12 0	3 2 0	1 0 0	1 0 0
1873-74 ..	0 5 0	0 4 8	0 2 10	0 2 8	0 14 0	0 0 0	0 7 4	0 0 0	3 4 8	0 0 0	1 0 0	0 0 0
1878-79 ..	0 5 10	0 4 8	0 2 10	0 2 8	0 14 0	0 0 0	0 7 4	0 0 0	3 4 8	0 0 0	1 0 0	0 0 0
1879-80 ..	0 5 10	0 4 8	0 2 10	0 2 8	0 14 0	0 0 0	0 7 4	0 0 0	3 4 8	0 0 0	1 0 0	0 0 0
1880-81 ..	0 5 10	0 4 8	0 2 10	0 2 8	0 14 0	0 0 0	0 7 4	0 0 0	3 4 8	0 0 0	1 0 0	0 0 0
1881-82 ..	0 5 10	0 4 8	0 2 10	0 2 8	0 14 0	0 0 0	0 7 4	0 0 0	3 4 8	0 0 0	1 0 0	0 0 0

NOTE.—These figures are taken from Table No. XLVIII of the Administration Report.

Table No. XXVIII, showing REVENUE COLLECTED.

1	2	3	4	5	6	7	8	9
YEAR.	Fixed Land Revenue	Fluctuating and Miscellaneous Land Revenue.	Tribute.	Local rates.	EXCISE.		Stamps.	Total Collections.
					Spirits.	Drugs.		
1868-69 ..	7,65,523	5,836	..	..	11,487	12,933	73,865	8,69,634
1869-70 ..	7,67,106	5,054	..	..	10,859	12,093	80,609	8,76,121
1870-71 ..	7,68,737	6,021	..	..	9,078	19,869	78,928	8,77,033
1871-72 ..	7,69,433	4,776	..	59,313	8,179	12,362	74,892	9,22,955
1872-73 ..	7,82,194	69,963	..	59,216	8,683	14,398	98,265	10,32,720
1873-74 ..	7,82,872	5,004	..	59,356	7,357	27,217	91,627	9,73,413
1874-75 ..	7,82,607	5,259	..	59,229	8,019	25,294	90,507	9,71,915
1875-76 ..	7,84,190	5,117	..	59,139	8,823	24,880	92,232	9,72,372
1876-77 ..	7,83,352	3,538	..	59,482	8,677	24,343	91,563	9,99,955
1877-78 ..	7,84,581	6,561	..	59,235	9,057	25,455	94,813	9,79,762
1878-79 ..	7,88,182	5,001	..	79,607	8,259	23,681	1,00,888	10,05,318
1879-80 ..	7,88,484	5,779	..	72,555	7,651	26,890	1,15,892	10,17,171
1880-81 ..	7,89,536	6,138	..	72,791	10,030	21,366	1,22,416	10,22,377
1881-82 ..	7,91,835	4,692	..	72,757	10,635	22,773	1,33,364	10,36,106

NOTE.—These figures are taken from Table No. XLIV of the Revenue Report. The following revenue is excluded:—
"Canal, Forests, Customs and Salt, Assessed Taxes, Fees, Cesses."

Table No. XXIX, showing REVENUE DERIVED from LAND.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	Fixed land revenue (demand).	Fluctuating and miscellaneous land revenue (collections).	FLUCTUATING REVENUE.					MISCELLANEOUS REVENUE.				
			Revenue of alluvial lands.	Revenue of waste lands brought under assessment.	Water advantage revenue.	Fluctuating assessment of river lands.	Total fluctuating land revenue.	Grazing dues.		Sale of wood from rakkas and forests.	Sajji.	Total miscellaneous land revenue.
								By enumeration of cattle.	By grazing leases.			
District Figures.												
Total of 5 years—												
1868-69 to 1872-73 ..	38,64,552	91,640	7,803	..	..	..	86,410	..	..	..	..	5,230
Total of 5 years—												
1873-74 to 1877-78 ..	39,27,780	25,479	7,618	..	..	..	21,700	..	..	..	..	3,779
1878-79 ..	7,90,000	5,001	1,457	..	..	..	4,741	..	..	..	..	260
1879-80 ..	7,89,240	5,779	922	..	..	..	5,552	..	..	..	..	227
1880-81 ..	7,90,619	6,138	1,667	..	..	..	5,828	..	..	..	..	310
1881-82 ..	7,92,535	4,692	828	..	..	..	4,255	..	..	..	..	437
Taball Totals for 5 years—												
1877-78 to 1881-82 ..												
Taball Ludhiana ..	17,48,892	12,732	1,732	..	..	..	12,137	..	..	..	..	595
Jagraon ..	11,51,399	7,836	2,908	..	..	..	7,243	..	..	..	..	493
Samrala ..	10,67,251	7,603	1,491	..	..	..	7,068	..	..	..	..	525

NOTE.—These figures are taken from Tables Nos. I and III of the Revenue Report.

Table No. XXX, showing ASSIGNED LAND REVENUE.

1	2	3	4	5	6	7	8	9	10	11
TAHSIL.	TOTAL AREA AND REVENUE ASSIGNED.								PERIOD OF ASSIGNMENT.	
	Whole Villages.		Fractional parts of Villages.		Plots.		Total.		In perpetuity.	
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.
Ludhiana ..	82,143	91,715	9,999	9,365	9,049	7,050	101,536	108,070	84,151	92,715
Jagraon ..	472	417	3,057	3,210	2,055	2,373	6,164	6,050	2,117	1,595
Samrala ..	44,123	40,570	10,124	7,559	2,548	1,123	57,045	58,723	55,203	57,655
Total District ..	127,743	141,502	22,720	20,415	14,552	10,546	164,795	172,843	141,471	151,965

12	13	14	15	16	17	18	19	20	21	22	23	24	25	
TAHSIL.	PERIOD OF ASSIGNMENT.—Contracted.								No. of ASSIGNEES.					
	For one life.		For more lives than one.		During existence of Estate.		Pending orders of Government.		In perpetuity.	For one life.	For more lives than one.	During maintenance.	Pending orders.	TOTAL.
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.						
Ludhiana ..	5,856	6,327	8,663	6,528	2,863	2,490	..	..	709	136	1,564	392	..	2,861
Jagraon ..	2,527	3,513	1,185	901	35	41	..	..	50	27	32	48	..	157
Samrala ..	306	208	1,516	817	70	43	..	..	105	41	485	155	..	786
Total District ..	8,689	10,048	11,364	8,246	2,968	2,574	..	..	864	204	2,081	595	..	3,804

NOTE.—These figures are taken from Table No. XII of the Revenue Report for 1881-82.

Table No. XXXI, showing BALANCES, REMISSIONS and TAKAVI.

YEAR.	Excess of land revenue in rupees.		Reductions of fixed demand on account of bad seasons, deterioration, &c., in rupees.	Takavi advances in rupees.
	Fixed revenue.	Fluctuating and miscellaneous revenue.		
1868-69 ..	..	3,240	..	1,990
1869-70 ..	..	2,551	..	7,288
1870-71 ..	..	800	..	2,100
1871-72 ..	..	2,528	..	5,060
1872-73 ..	..	2,131	..	5,845
1873-74 ..	..	1,779	..	730
1874-75 ..	..	3,812	..	960
1875-76 ..	..	1,687	..	480
1876-77 ..	..	1,721	..	75
1877-78 ..	..	578	..	130
1878-79 ..	..	1,818	..	40
1879-80 ..	..	756	..	355
1880-81 ..	..	1,653	..	..
1881-82 ..	..	650	..	200

NOTE.—These figures are taken from Tables Nos. I, II, III, and XVI of the Revenue Report.

Table No. XXXII, showing SALES and MORTGAGES of LAND.

1	2	3	4	5	6	7	8	9	10
YEAR.	SALES OF LAND.						MORTGAGES OF LAND.		
	Agriculturists.			Non-Agriculturists.			Agriculturists.		
	No. of cases.	Area of land in acres.	Purchase money.	No. of cases.	Area of land in acres.	Purchase money.	No. of cases.	Area of land in acres.	Mortgage money.
DISTRICT FIGURES.									
Total of 6 years—1868-69 to 1873-74 ..	756	6,325	215,120	..	..	..	3,459	28,847	734,292
Total of 4 years—1874-75 to 1877-78 ..	459	3,377	149,070	267	2,080	133,378	1,913	9,843	295,312
1878-79 ..	73	342	21,953	57	321	20,384	135	1,128	41,803
1879-80 ..	172	1,019	46,768	56	368	16,308	404	3,261	122,015
1880-81 ..	114	714	30,662	62	494	16,615	233	1,391	58,547
1881-82 ..	43	186	16,081	26	156	16,525	83	427	19,684
TAHSIL TOTALS FOR 5 YEARS— 1877-78 to 1881-82.									
Tahsil Ludhiana ..	240	1,395	52,982	170	890	44,670	595	3,725	132,572
„ Jagraon ..	147	1,020	61,411	40	430	25,170	413	3,162	117,403
„ Samrala ..	90	479	26,616	43	395	13,665	173	1,307	46,895

11	12	13	14	15	16	17	18	19
YEAR.	MORTGAGES OF LAND.— <i>Continued.</i>			REDEMPTIONS OF MORTGAGED LAND.				
	Non-Agriculturists.			Agriculturists.			Non-Agriculturists.	
	No. of cases.	Area of land in acres.	Mortgage money.	No. of cases.	Area of land in acres.	Mortgage money.	No. of cases.	Area of land in acres.
DISTRICT FIGURES.								
Total of 6 years—1868-69 to 1873-74 ..	..	..	..	..	..	..	..	..
Total of 4 years—1874-75 to 1877-78 ..	1,755	12,142	347,103	317	1,773	34,968	253	1,845
1878-79 ..	75	542	17,554	138	1,038	25,940	89	847
1879-80 ..	324	2,605	100,732	69	684	17,125	36	411
1880-81 ..	113	682	27,305	81	659	16,921	23	156
1881-82 ..	68	303	13,372	31	229	3,866	21	115
TAHSIL TOTALS FOR 5 YEARS— 1877-78 to 1881-82.								
Tahsil Ludhiana ..	362	2,579	92,791	160	1,361	29,882	100	967
„ Jagraon ..	452	2,279	79,707	143	1,044	29,445	89	717
„ Samrala ..	160	1,418	56,775	77	607	14,551	37	379

NOTE.—These figures are taken from Tables Nos. XXXV and XXXVB of the Revenue Report. No details for transfers by agriculturists and others, and no figures for redemption are available before 1874-75. The figures for earlier years include all sales and mortgages.

Table No. XXXIII, showing SALE of STAMPS and REGISTRATION of DEEDS.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	INCOME FROM SALE OF STAMPS.				OPERATIONS OF THE REGISTRATION DEPARTMENT.							
	Receipts in rupees.		Net income in rupees.		No. of deeds registered.				Value of property affected, in rupees.			
	Judicial.	Non-judicial.	Judicial.	Non-judicial.	Tending immovable property.	Touching movable property.	Money obligations.	Total of all kinds.	Immovable property.	Movable property.	Money obligations.	Total value of all kinds.
1877-78 ..	70,698	19,407	69,658	18,737	1,581	118	227	1,926	4,71,016	67,302	66,181	6,04,499
1878-79 ..	74,674	26,214	68,025	25,267	1,850	121	171	2,142	5,55,957	7,339	46,061	6,09,357
1879-80 ..	83,560	32,332	76,169	30,782	2,317	10	156	2,614	7,04,671	4,050	44,077	7,52,823
1880-81 ..	88,057	34,359	81,142	32,518	2,087	8	133	2,493	7,64,775	1,634	39,511	8,06,764
1881-82 ..	98,933	34,431	91,697	32,809	2,030	15	118	2,369	8,35,942	12,350	47,409	8,95,956

NOTE.—These figures are taken from Appendix A of the Stamp and Tables Nos. II and III of the Registration Report.

Table No. XXXIIIA, showing REGISTRATIONS.

1	2	3	4	5	6	7
	Number of Deeds registered.					
	1880-81.			1881-82.		
	Compul- sory.	Optional.	Total.	Compul- sory.	Optional.	Total.
Registrar Ludhiana	13	..	13	7	2	9
Sub-Registrar Ludhiana	799	192	992	808	181	989
" Ramgarh	59	53	112	76	49	125
" Makaulh	46	25	71	37	20	57
" Samrala	252	152	404	262	145	407
" Jagraon	633	218	851	598	185	773
Total of district	1,793	610	2,403	1,788	582	2,360

NOTE.—These figures are taken from Table No. I of the Registration Report.

Table No. XXXIV, showing LICENSE TAX COLLECTIONS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
YEAR.	NUMBER OF LICENSES GRANTED IN EACH CLASS AND GRADE.											Total number of licenses	Total amount of fees.	Number of villages in which licenses granted.	
	Class I.				Class II.				Class III.						
	1	2	3	4	1	2	3	4	1	2	3				
	Rs. 500	Rs. 200	Rs. 150	Rs. 100	Rs. 75	Rs. 50	Rs. 25	Rs. 10	Rs. 5	Rs. 2	Rs. 1				
1878-79	..	..	5	1	34	3	32	127	513	1,229	4,540	16,900	23,474	46,895	..
1879-80	..	..	..	2	28	4	26	169	494	1,066	3,595	14,903	20,288	41,763	..
1880-81	..	..	2	1	22	11	47	186	600	..	..	..	1,069	18,575	174
1881-82	..	..	4	..	20	12	47	199	813	..	..	..	1,095	19,155	176
Tahsil details for 1881-82—															
Tahsil Ludhiana	..	..	2	..	13	10	24	103	327	..	..	..	514	10,595	..
" Jagraon	..	..	2	..	2	2	13	43	291	..	..	..	263	4,485	..
" Samrala	..	..	..	..	..	10	53	225	..	..	..	..	238	4,075	..

Table No. XXXV, showing EXCISE STATISTICS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR.	FERMENTED LIQUORS.					INTOXICATING DRUGS.						EXCISE REVENUE FROM		
	Number of cental dis- tilled.	No. of bottles sold.		Gross value in rupees.		No. of bottles sold.		Gross value in rupees.		Fer- mented liquors.	Drugs.	Total.		
		Country spirits.	Rum- brandy.	Rum.	Country spirits.	Opium.	Other drugs.	Opium.	Charas.	Bhang.	Other drugs.			
1877-78	1	12	4	2	1,738	21	21	2,7	25	179	..	8,793	24,996	33,789
1878-79	1	13	4	2	1,784	21	..	..	..	164	..	8,665	23,249	31,914
1879-80	1	13	4	2	1,784	1	1	152	12	214	..	7,620	26,108	33,728
1880-81	2	14	3	1	2,100	1	1	82	29	..	..	9,842	21,060	30,902
1881-82	1	14	4	1	2,100	1	1	50	11	91	..	10,675	22,773	33,448
TOTAL	6	63	19	7	9,447	45	45	827	110	668	..	41,865	118,184	160,049
Average	1	13	4	1	1,908	9	9	165	22	135	..	8,645	23,637	32,282

NOTE.—These figures are taken from Tables Nos. I, II, VIII, IX, X, of the Excise Report.

Table No. XXXVI, showing DISTRICT FUNDS.

1	2	3	4	5	6	7	8	9	10	11
YEAR.	Annual income in rupees.			Annual expenditure in rupees.						
	Provincial rates.	Miscellaneous.	Total income.	Establishment.	District post, and labour.	Education.	Medical.	Miscellaneous.	Public Works.	Total expenditure.
1874-75 ..	..	..	58,590	1,377	6,952	13,215	1,200	315	51,113	74,152
1875-76 ..	..	..	93,833	1,655	..	17,593	361	136	66,458	85,908
1876-77 ..	..	..	72,233	1,458	..	18,813	2,911	159	43,175	66,516
1877-78 ..	..	..	65,817	1,534	671	19,567	4,277	615	31,956	58,640
1878-79 ..	..	..	65,444	1,614	789	19,605	5,650	874	32,511	61,043
1879-80 ..	78,250	686	78,936	1,838	817	20,628	6,683	2,767	29,051	61,790
1880-81 ..	78,402	2,883	82,345	1,953	820	20,284	6,680	3,633	22,983	56,312
1881-82 ..	78,428	3,332	81,760	1,970	1,000	20,895	8,218	1,175	21,569	54,737

NORE.—These figures are taken from Appendices A and B to the Annual Review of District Fund operations.

Table No. XXXVII, showing GOVERNMENT and AIDED SCHOOLS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
YEAR.	HIGH SCHOOLS.						MIDDLE SCHOOLS.						PRIMARY SCHOOLS.							
	ENGLISH.			VERNACULAR.			ENGLISH.			VERNACULAR.			ENGLISH.				VERNACULAR.			
	Government.		Aided.	Government.		Aided.	Government.		Aided.	Government.		Aided.	Government.		Aided.	Government.		Aided.	Government.	
	Schools.	Scholars.	Schools.	Schools.	Scholars.	Schools.	Schools.	Scholars.	Schools.	Schools.	Scholars.	Schools.	Schools.	Scholars.	Schools.	Schools.	Scholars.	Schools.	Schools.	Scholars.

FIGURES FOR BOYS.

1877-78	1	62	1	238	..	..	1	135	..	..	11	1,392	..	..	..	50	2,462	3	179
1878-79	1	46	1	199	..	..	1	125	..	..	10	1,245	..	..	..	50	1,803	3	154
1879-80	1	43	1	144	..	..	2	71	1	43	9	245	2	2	357	3	277	59	2,320
1880-81	1	34	1	133	..	..	2	97	1	29	9	233	2	172	4	377	59	2,413	..
1881-82	1	27	1	10	..	..	2	90	1	34	9	230	2	44	4	390	56	2,376	..

FIGURES FOR GIRLS.

1877-78 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	240	..	..
1878-79 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	246	..	..
1879-80 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	416	..	..
1880-81 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	403	..	..
1881-82 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	62	17	363	..	..

N. B.—Since 1879-80, in the case of both Government and Aided Schools, those scholars only who have completed the Middle School course are shown in the returns as attending High Schools, and those only who have completed the Primary School course are shown as attending Middle Schools. Previous to that year, boys attending the Upper Primary Department were included in the returns of Middle Schools in the case of Institutions under the immediate control of the Education Department, whilst in Institutions under District Officers, boys attending both the Upper and Lower Primary Departments were included in Middle Schools. In the case of Aided Institutions, a High School included the Middle and Primary Departments attached to it; and a Middle School, the Primary Department. Before 1879-80, Branches of Government Schools, if supported on the grant-in-aid system, were classed as Aided Schools; in the returns for 1879-80 and subsequent years they have been shown as Government Schools. Branches of English Schools, whether Government or Aided, that were formerly included amongst Vernacular Schools, are now returned as English Schools. Hence the returns before 1879-80 do not afford the means of making a satisfactory comparison with the statistics of subsequent years.

Indigenous Schools and Jail Schools are not included in these returns.

Table No. XXXVIII, showing the working of DISPENSARIES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Name of Dispensary.	Class of Dispensary.	NUMBER OF PATIENTS TREATED.														
		Men.					Women.					Children.				
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Ludhiana ..	1st	13,339	15,401	13,937	13,454	14,078	4,459	6,043	5,554	5,748	5,514	2,777	3,914	4,617	3,935	3,955
Jagraon ..	2nd	5,164	6,524	5,391	5,973	5,682	3,099	3,718	3,309	3,095	3,441	389	923	491	407	634
Machiwara ..	2nd	2,568	4,629	4,542	6,042	5,180	1,317	2,423	2,506	3,544	2,969	745	1,517	1,830	2,590	2,383
Total ..	..	21,071	26,554	23,870	25,469	24,940	8,875	12,184	11,459	12,387	11,924	3,911	6,354	6,938	6,932	6,972

Name of Dispensary.	Class of Dispensary.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
		Total Patients.					In-door Patients.					Expenditure in Rupees.				
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Ludhiana ..	1st	20,575	25,358	24,108	23,137	23,547	509	702	615	537	671	3,530	5,457	4,347	4,938	6,581
Jagraon ..	2nd	8,652	11,165	9,191	9,473	9,757	129	128	127	126	131	1,426	1,787	1,666	1,780	2,040
Machiwara ..	2nd	4,620	8,509	8,968	12,176	10,532	..	..	..	106	206	809	1,286	5,159	1,491	1,538
Total ..	..	33,857	45,032	42,267	44,788	43,836	629	830	742	769	1,008	5,765	8,530	11,172	8,209	10,154

NOTE.—These figures are taken from Tables Nos. II, IV, and V of the Dispensary Report.

Table No. XXXIX, showing CIVIL and REVENUE LITIGATION.

1	2	3	4	5	6	7	8	9
YEAR.	Number of Civil Suits concerning				Value in rupees of Suits concerning			Number of Revenue cases.
	Money or tangible property.	Rent and tenancy rights.	Land and revenue.	Total.	* Land.	* Other matters.	* Total.	
1878	7,273	147	1,441	8,861	1,22,336	4,34,072	5,56,408	5,313
1879	7,524	266	1,417	9,207	1,49,402	4,68,848	6,18,250	4,099
1880	7,946	291	1,866	10,153	85,884	4,85,280	5,71,164	5,005
1881	7,683	343	1,854	9,865	1,57,205	4,59,656	6,16,861	5,263
1882	7,932	355	2,200	9,588	1,25,168	5,00,473	6,25,641	6,528

NOTE.—These figures are taken from Tables Nos. VI and VII of the Civil Reports for 1878 to 1880, and Nos. II and III of the Reports on Civil Justice for 1881 and 1882.

* Suits heard in Settlement courts are excluded from these columns, no details of the value of the property being available.

Table No. XL, showing CRIMINAL TRIALS.

1				2	3	4	5	6
DETAILS.				1878.	1879.	1880.	1881.	1882.
Persons tried.	Brought to trial	..	..	6,084	6,689	6,816	5,651	7,403
	Discharged	..	..	2,038	2,570	3,137	2,997	3,968
	Acquitted	..	..	747	802	607	619	911
	Convicted	..	..	3,280	3,286	2,442	2,032	2,429
	Committed or referred	..	..	11	12	49	46	22
Cases disposed of.	Summons cases (regular)	..	..	..	..	..	1,885	2,372
	" (summary)	..	..	..	..	..	13	1
	Warrant cases (regular)	..	..	..	..	..	936	1,161
	" (summary)	..	..	..	..	..	23	9
	Total cases disposed of	..	..	2,758	3,057	2,994	2,867	3,543
Number of persons sentenced to	Death	..	..	2	7	3	5	..
	Transportation for life	..	..	2	3	12	8	2
	" for a term	..	..	11	6	..	6	..
	Penal servitude	..	..	..	..	..	..	..
	Fine under Rs. 10	..	..	2,214	2,481	1,656	1,147	1,624
	" 10 to 50 rupees	..	..	335	275	264	280	307
	" 50 to 100	..	..	28	24	8	61	34
	" 100 to 500	..	..	4	4	5	21	12
	" 500 to 1,000	..	..	..	1	1	..	..
	Over 1,000 rupees	..	..	..	..	..	..	..
	Imprisonment under 6 months	..	..	306	243	262	314	270
	" 6 months to 2 years	..	..	232	231	202	166	170
	" over 2 years	..	..	21	43	34	5	17
	Whipping	..	..	170	201	129	97	109
	Find sureties of the peace	..	..	..	..	3	16	6
	Recognisance to keep the peace	..	..	81	39	101	74	68
	Give sureties for good behaviour	..	..	147	49	23	35	38

NOTE.—These figures are taken from Statements Nos. III and IV of the Criminal Reports for 1878 to 1880, and Nos. IV and V of the Criminal Reports for 1881 and 1882.

Table No. XLI, showing POLICE INQUIRIES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Nature of offence.	Number of cases inquired into.					Number of persons arrested or sentenced.					Number of persons convicted.				
	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881
Rioting or unlawful assembly ..	2	7	5	5	8	16	59	34	38	81	15	49	34	38	79
Murder and attempts to murder ..	7	7	6	6	6	9	17	26	22	16	4	3	15	10	15
Total serious offences against the person ..	37	42	44	36	39	53	66	72	63	67	34	48	53	39	60
Abduction of married women ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total serious offences against property ..	205	227	159	221	292	116	146	140	169	140	93	112	117	143	118
Total minor offences against the person ..	28	23	15	23	18	53	31	37	43	35	45	28	32	40	30
Cattle theft ..	40	59	52	64	53	38	51	47	75	63	50	43	42	61	52
Total minor offences against property ..	518	674	517	457	292	427	565	516	501	341	340	490	489	418	292
Total cognizable offences ..	794	988	757	752	656	670	884	819	820	673	522	743	693	634	587
Rioting, unlawful assembly, affray ..	2	1	1	..	2	19	3	2	..	11	18	3	2	..	11
Offences relating to marriage ..	4	..	5	4	2	5	..	6	4	2	5	..	3	4	2
Total non-cognizable offences ..	46	53	65	25	59	67	96	81	26	93	62	86	75	24	91
GRAND TOTAL of offences ..	840	1,041	822	777	715	737	980	900	846	766	594	829	768	708	678

NOTE.—These figures are taken from Statement A of the Police Report.

Table No. XLII, showing CONVICTS in GAOL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
YEAR.	No. in Gaol at beginning of the year.		No. imprisoned during the year.		Religion of convicts.			Previous Occupation of male convicts.					
	Males.	Females.	Males.	Females.	Musalman.	Hindu.	Buddhist and Jain.	Official.	Professional.	Service.	Agricultural.	Commercial.	Industrial.
1877-78	213	12	478	40	266	345	..	23	..	8	217	..	..
1878-79	224	16	669	51	377	374	..	23	..	11	220	..	..
1879-80	230	14	563	33	99	49	..	10	..	13	47	16	..
1880-81	213	7	439	43	92	80	..	9	..	16	60	22	..
1881-82	241	15	462	50	119	109	..	5	..	7	95	8	..
	15	16	17	18	19	20	21	22	23	24	25	26	
YEAR.	Length of sentence of convicts.							Previously convicted.			Pecuniary results		
	Under 6 months.	6 months to 1 year.	1 year to 2 years.	2 years to 5 years.	5 years to 10 years.	Over 10 years and transportation.	Death.	Once.	Twice.	More than twice.	Cost of maintenance.	Profits of convict labour.	
1877-78	365	159	184	10	3	20	2	131	37	58	13,664	945	
1878-79	462	245	207	5	4	33	1	166	47	45	17,926	1,733	
1879-80	52	73	67	21	3	2	2	55	11	12	17,638	1,615	
1880-81	53	60	91	36	5	4	2	23	13	7	16,193	3,363	
1881-82	64	70	87	31	7	16	..	54	18	11	16,493	2,565	

NOTE.—These figures are taken from Tables Nos. XXVIII, XXIX, XXX, XXXI, and XXXVII of the Administration Report.

Table No. XLIII, showing the POPULATION of TOWNS.

1	2	3	4	5	6	7	8	9	10
Tahsil.	Town.	Total population.	Hindus.	Sikhs.	Jains.	Musalmans.	Other religions.	No. of occupied houses.	Persons per 100 occupied houses.
Ludhiana	Ludhiana	44,163	12,969	1,077	752	29,045	320	7,041	627
Jagraon	Jagraon	16,873	6,093	1,372	302	9,102	4	2,548	662
	Raekot	9,219	2,855	898	245	5,281	..	1,354	606
Samrala	Machhiwara	5,967	1,448	151	158	3,710	..	963	620
	Khanna	3,688	2,443	254	..	1,090	1	1,280	289
	Bahloipur	2,542	940	61	11	1,850	..	581	746

NOTE.—These figures are taken from Table No. XX of the Census Report of 1881

Table No. LIV, showing BIRTHS and DEATHS for TOWNS.

1	2	3	4	5	6	7	8	9	10	11	12	13
TOWN.	Sex.	Total population by the Census of	Total births registered during the year					Total deaths registered during the year				
		1875.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Ludhiana	.. { Males .. Females	22,322 18,063	798 781	905 814	443 430	897 832	942 865	675 673	2,244 2,262	1,232 1,005	748 707	757 737
Jagraon	.. { Males .. Females	8,500 7,821	.. ..	360 270	294 244	422 405	416 387	.. ..	567 543	399 845	284 259	309 290

NOTE.—These figures are taken from Table No. LVII of the Administration Report.

Table No. LV, showing MUNICIPAL INCOME.

1	2	3	4	5	6	7
NAM OF MUNICIPALITY.	Ludhiana.	Jagraon.	Rackot.	Machhiwara.	Khana.	Bahadpur.
Class of Municipality ..	II.	III.	III.	III.	III.	III.
1870-71	24,624	4,425	1,570	1,783	..	..
1871-72	23,009	4,500	1,500	2,042	..	..
1872-73	24,432	3,507	1,285	3,484	..	..
1873-74	26,606	4,416	1,650	3,100	..	..
1874-75	35,305	7,611	1,908	3,023	1,353	821
1875-76	31,935	5,790	1,611	2,886	1,606	1,135
1876-77	37,651	7,268	1,632	2,696	1,834	1,468
1877-78	47,025	9,663	2,588	2,890	4,352	1,084
1878-79	48,913	8,232	2,443	3,075	3,540	1,120
1879-80	55,076	10,607	2,946	3,461	4,582	1,247
1880-81	57,353	10,171	3,286	3,395	4,770	1,368
1881-82	56,492	8,955	3,522	4,106	4,547	1,730

Ludhiana, a		Sherpur, b		Sanawal, c		Wazirwalli, b		Doraha, d		Titch Mundala, b		Chawla, a		Gaggar Majra, b		Khamra, c		Bhuttian, b		Talwandi, b		Phillour, e		Majorwalli, b		Baddowal, b		Dakha, c		Pindori, b		More Garima, b		Man, b		Jagraon, b		Jagraon, City		Kaler, b		Ghalib, b		Rackot, c		Sahna, c		Kohara, f		Samraha, g		Machhiwara, City f		Dobhon, c																													
3	9	11	13	18	20	21	23	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
3	9	11	13	18	20	21	23	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
3	9	11	13	18	20	21	23	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
3	9	11	13	18	20	21	23	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
3	9	11	13	18	20	21	23	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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